

GROWTH



TALENT



INNOVATION



MASSACHUSETTS
LIFE SCIENCES CENTER

Annual Report

Fiscal Year 2018



THE FUTURE IS MASSACHUSETTS

A LETTER FROM THE PRESIDENT & CEO



The future of life sciences will usher in new research and development, discoveries, and opportunities to improve human health—and with the Commonwealth’s renewed funding commitment to the Massachusetts Life Sciences Center (MLSC), our state is poised to remain the global beacon for that bright future.

That commitment comes in the form of the passage and signing of *An Act Providing Continued Investment in the Life Sciences Industry in the Commonwealth*, which will invest up to \$623 million in bond authorization and tax credits over five years in education, research and development, and workforce training. This legislation reinforces the Baker-Polito Administration’s dedicated leadership in the life sciences sector.

Our leaders in the Executive and Legislative branch have provided a path forward for Massachusetts’ vibrant life sciences ecosystem. However, in no way did we lower our guard this past year in what has been another impactful year for the MLSC and our life sciences sector. We ran a myriad of programs and invested more than \$30 million to support job growth, talent development, and entrepreneurial growth throughout the Commonwealth.

At the MLSC we have a saying, “In Massachusetts, the life sciences is not just a sector, it is a culture.” To build that culture, it takes more than a village—it takes an ecosystem comprised of government, academic, and industry stakeholders working together. This cross-sector leadership will remain integral to continuing the important scientific and economic development being done here in the Commonwealth.

There are many factors that have contributed to our leadership post in the life sciences, but one that is essential is that we, as the MLSC and a Commonwealth, do not shy away from the tough questions and challenges facing the industry. We remain steadfast in our commitment to invest in innovative infrastructure; support new scientific innovations that deliver higher outcome; affordable therapies to patients; and lead the way toward advancements in workforce development and training, research and development, commercialization, and manufacturing.

Sincerely,

Travis A. McCready
President & CEO

**The ecosystem is here.
The community is here.
The future is here in Massachusetts.**

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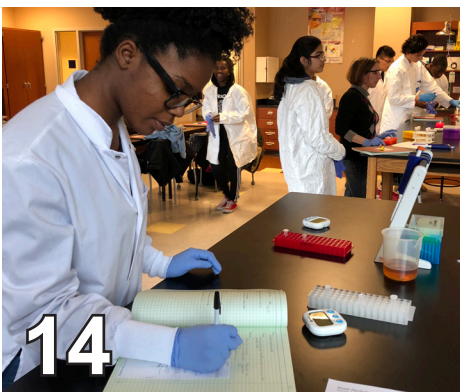
Martha Waldron

Vice President of Marketing and Communications

Annie Walsh

Program Associate

A Letter From the President & CEO	2
The Future is Massachusetts	
Fiscal Year 2018 Highlights	4
The Bottom Line	5
The Way Forward	6
Making History at BIO International	7
Accelerating Growth	
Industry Programs	8
Tax Incentive Program	9
It's All Happening Here	10
Talent	
STEM Equipment and Supplies Program	12
Community Grants	13
High School Apprenticeship Challenge	14
Internship Challenge	15
MassNextGen Initiative	16
Innovation	
A Life Sciences Innovation Hub in the Berkshires	18
Innovation Challenge Support	19
Investing in Infrastructure	20
Appendices	
Financial Summary	21
Fiscal Year 2018 Investments	22
Certified Life Sciences Companies	23
Capital Awards	24
Internship and Apprenticeship Host Companies	26
Number of High School Interns by School	29
Number of High School Interns by District	30
Number of College Interns by School	31





RE-AUTHORIZATION

Governor Charlie Baker signed *An Act Providing Continued Investment in the Life Sciences Industry in the Commonwealth* to further invest up to \$623 million in bond authorization and tax credits over five years in education, research and development, and workforce training. The MLSC will continue to manage the funding.



MASSNEXTGEN

MassNextGen, a new five-year, \$1 million public-private partnership was launched, garnering support from the life sciences community to empower women and increase diversity in the next generation of life sciences entrepreneurs.



TAX INCENTIVES



The MLSC awarded more than \$19 million in tax incentives to 23 companies that committed to create 1,189 net new jobs in the Commonwealth by the end of the 2018 calendar year.

INTERNSHIP CHALLENGE



The 2017-2018 Internship Challenge funded a record high of 535 interns at 285 companies. To continue the momentum, \$3.7 million was allocated for the 2018-2019 program year.

HIGH SCHOOL APPRENTICESHIPS



The 2018 High School Apprenticeship Program funded 94 internships and supported 45 trainees.

ACCELERATOR LOANS



3 companies successfully raised over \$100 million in financing and were able to pay back their Accelerator Loans in full.

In the decade since its inception, the MLSC has invested or committed more than

\$677 million in awards

	AMOUNT	COUNT
Capital Projects	\$ 434,494,830	86
Tax Incentives	\$ 125,396,277	138
Company Grants and Loans	\$ 35,181,377	85
Academic Research	\$ 27,168,159	52
Internships and Apprenticeships	\$ 25,258,913	3,472
Equipment and Supplies	\$ 17,472,246	191
Other Grants	\$ 12,053,168	107
	\$ 677,024,970	4,131

which has generated more than

\$3.1 billion in additional investment in the Commonwealth

*The direct contributions of the MLSC programs have created nearly

10,000 new jobs in Massachusetts over the past 10 years

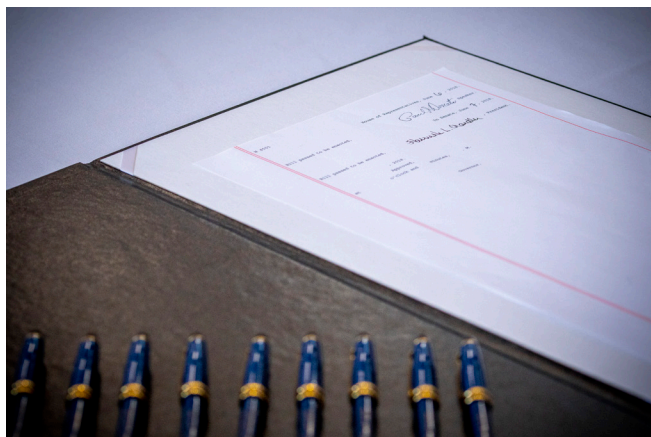
*To ensure access to STEM education,

23 percent of public middle and high school students attend a school that has received an MLSC STEM grant

*and the MLSC has supported nearly

1,800 companies through individual programs and activities

THE WAY FORWARD



The bill signing: An Act Providing Continued Investment in the Life Sciences Industry in the Commonwealth

On June 15, Governor Charlie Baker signed *An Act Providing Continued Investment in the Life Sciences Industry in the Commonwealth* to invest up to \$623 million in bond authorization and tax credits over five years in education, research and development, and workforce training. The bill, signed into law at

Bunker Hill Community College, includes a five-year, \$473 million bond authorization to provide capital funding that will enable the state to strengthen the ecosystem through collaborations that maximize third-party investments and sharpen the Commonwealth's competitive edge.

In addition, the legislation extends and expands the authorization of a key state tax credit that fuels job growth. The funding will continue to be managed by the MLSC with a focus on regional investments that spur workforce and economic development and enrich learning and experiential opportunities for young people in Massachusetts.

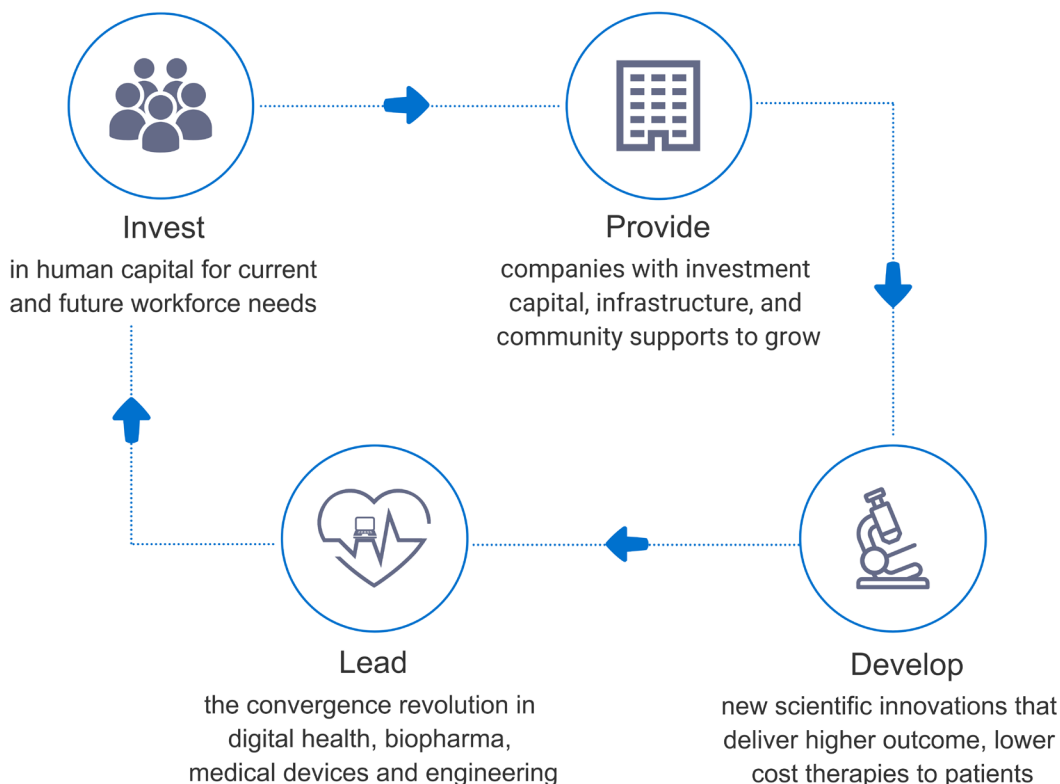
The MLSC is incredibly grateful to the Baker-Polito Administration and legislative leaders for including an appropriation of \$10 million for the Life Sciences Investment Fund, after a declaration of a consolidated net surplus, in a supplemental budget for Fiscal Year 2018. The Investment Fund is a critical component of funding as it enables the MLSC's operations and innovative programming.

“Massachusetts is home to a world-class talent pool and this legislation will ensure more educational and career opportunities for residents throughout every region of the Commonwealth.”

— Lieutenant Governor Karyn Polito

OUR PATH

Massachusetts Life Sciences Center





Amy Schulman, Partner, Polaris Partners delivers opening “Possible Talk” on women entrepreneurs in life sciences

For four days in June, global leaders in the biotechnology industry, descended on Boston to attend the 2018 Bio International Convention (BIO). Attendees traveled worldwide, coming from 49 states, the District of Columbia, Puerto Rico, and 67 countries, totaling 18,289 attendees. Additionally, BIO set a Guinness World Record for “The Largest Business Partnering Event,” hosting 46,916 partnering meetings to foster and develop impactful collaborations.

Massachusetts was proud to host and showcase the exceptional work that is being done within the state to grow our life sciences ecosystem and impact global health. During the conference, the MLSC and MassBio teamed up to create “The State of Possible” on the convention floor. There, attendees could learn about the many reasons Massachusetts is “the life sciences hub of the world,” such as: the world’s leading innovation pipeline, world-class academic and medical institutions, a talented workforce, and business-friendly infrastructure, and how they too can benefit by making Massachusetts their home.



Governor Charlie Baker delivers a keynote at BIO International.

“We all know that having diverse teams makes sense if we want to speak better to our customers, to our regulators, to our potential hirers.”
— Amy Schulman

During the conference, on June 5, Governor Charlie Baker was honored with BIO’s Governor of the Year Award. “I am honored to receive this acknowledgement of our administration’s commitment to playing a role in further expanding the industry and we look forward to continuing this collaborative work to ensure Massachusetts remains a leader in the life sciences,” said Governor Baker.

The excitement continued when Ipsen, a global biopharmaceutical group, announced it will establish its North American headquarters in Cambridge. The company will capitalize on Cambridge’s life sciences ecosystem to support its accelerated growth, as well as

raise its profile and visibility as an employer and partner of choice. Ipsen already has an established presence in Cambridge with two sites in Kendall Square. The move is anticipated to bring approximately 200 jobs to the state.

“We are entering into a new era of innovation and growth for Ipsen as a leading global biotech company. The MLSC has been instrumental throughout this process, and we look forward to continuing to partner with them as we grow our footprint even further in Cambridge and ultimately address patient needs.”
— Richard Paulson, CEO of Ipsen North America

ACCELERATING GROWTH

INDUSTRY PROGRAMS

An essential part of the MLSC's mission is to support the most robust life sciences industry in the world. This has been accomplished through grant and loan programs to early-stage companies, driving the innovation flywheel that is Massachusetts. Overall, our approximately 80 portfolio companies have raised more than \$700 million since their inception and currently employ around 600 employees. Nearly 20 percent have had an exit event since our first investments in 2009. The following 2018 updates from our portfolio companies highlight the wealth of innovation catalyzed by MLSC funds.



Akili Interactive Labs, Inc., recipient of a \$190,000 grant in 2015, is pioneering the development of digital treatments with direct therapeutic activity delivered not through a pill, but through a high-quality action video game experience. In December 2017, Akili received positive Phase III data with 348 children and adolescents diagnosed with ADHD. In August 2018, Akili announced \$68 million in Series C funding to drive forward the development and deployment of their technology platform. Its lead digital treatment, AKL-T01 in pediatric ADHD is now under review by the FDA for marketing authorization.



In December 2017, the MLSC alongside Myomo celebrated a loan repayment totaling more than \$1.3 million. Myomo's repayment is [nearly double] the initial loan of \$750,000 MLSC provided in 2011.

"The accelerator loan from the MLSC enabled us to enhance our ability to deliver a life changing device to the patients who need it most," said Myomo Chairman and CEO Paul R. Gudonis. "It also helped us achieve certain key milestones which ultimately attracted significant private and public investments in the company."

Myomo develops and markets the MyoPro line of powered orthoses. MyoPro, a myoelectric arm orthosis (powered brace), is the only lightweight wearable device on the market that can help restore substantial functionality in the paralyzed or weakened arms and hands of individuals who have suffered brachial plexus injury (BPI), brain or spinal cord injury, stroke, multiple sclerosis or ALS (see image above).

ACCELERATOR LOAN REPAYMENTS

Three companies repaid their loans in full during Fiscal Year 2018.

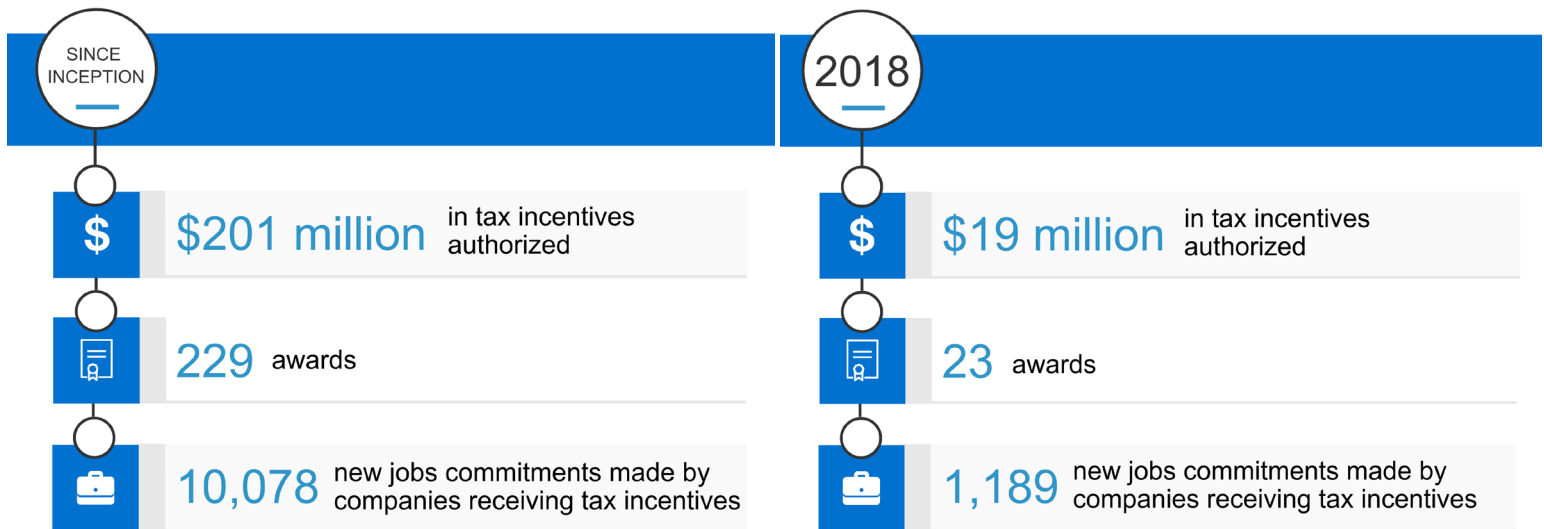
Company	Amount Awarded	Amount Repaid
Lumicell, Inc.	\$1,000,000	\$1,443,132.19
Myomo, Inc.	\$750,000	\$1,350,617.15
Parsagen Diagnostics, Inc.	\$1,000,000	\$1,412,474.47



Myomo loan repayment ceremony



Parsagen Diagnostics, Inc. loan repayment ceremony



The Life Sciences Initiative authorizes up to \$25 million in tax incentives each year for companies engaged in life sciences research and development, commercialization, and manufacturing.

In this most recent round, the MLSC focused on leveraging diverse life sciences assets across the state to encourage growth more broadly across Massachusetts. Small and medium-sized enterprises and companies located in or expanding outside of Boston and Cambridge were strongly considered for the tax incentive program.

“We continue to add high paying jobs in part from the assistance that we receive from MLSC. Last year we doubled in size and look forward to more growth this coming year.”
— Shawn Kinney,
President of Berkshire Sterile Manufacturing, Inc.

The MLSC carefully monitors the performance of companies that have received tax incentives to ensure compliance with the headcount commitments they are required to reach per their agreement with the MLSC. As part of these agreements with awardees, recipients of tax incentives are required to report job creation results by the end of the calendar year. Under the Life Sciences Act, the Department of Revenue has the authority to recover or “claw back” incentives either in full or a prorated amount from companies that the MLSC determines will not meet the minimum job creation threshold in their tax incentive agreement.

There are 85 active awards from the 2013-2017 program years, with a combined commitment of 4,375 net new jobs under the program.

55 awards from 2009-2012 have completed their 5-year term on December 31, 2014-2017 respectively. The completed awards have created, hired, and maintained 1,914 net new jobs over a period of 5 years under the program.

“The award will assist us as we hire additional employees within the local biotech community in Boston to support our mission of bringing novel anti-infective therapies for current and emerging drug-resistant infections to patients.”
— Ankit Mahadevia, M.D.,
CEO of Spero Therapeutics

Additional:

18 awards have been declined due to changes in their business or general economic conditions.

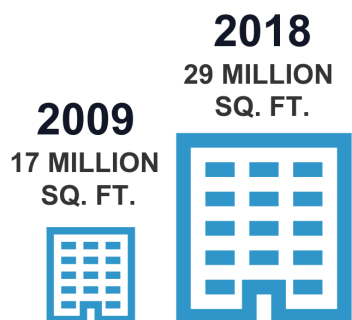
72 awardees have terminated their agreements and were required to refund their incentives either in full or on a prorated basis to the Department of Revenue.

Since inception, the MLSC has decertified 2 awardees, who did not voluntarily terminate their award, for not achieving the statutory thresholds.

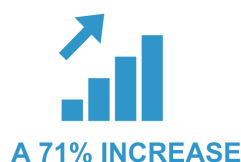
IT'S ALL HAPPENING HERE

The major expansions of 2018 represent a maturation of our life sciences ecosystem, as discoveries made in the labs of our world class research institutions and breakthroughs made by our startup companies are moving toward clinical trials and beyond. The pioneers developing the modalities of the future will have the capacity to innovate and manufacture those treatments here in the Commonwealth as we work together to build what is next.


Our Business Development team works with life sciences companies to find the talent, ideas, and resources companies need to locate or grow here.




OVER 12 MILLION SQ. FT.
of commercial lab space has
been added in Massachusetts
in the last decade.




MASSACHUSETTS LEADS THE NATION IN PER CAPITA



residents with a
bachelor's degree
or higher



residents with an
advanced degree



STEM degrees
conferred
annually

**LIFE SCIENCES
COMPANIES IN
MASSACHUSETTS RAISED**
\$3.6 BILLION
in venture capital
investment in 2017

Source: MassBio 2018 Industry Snapshot

EXPANDING FOOTPRINTS

MilliporeSigma

MilliporeSigma doubled down on its investment in Massachusetts with a 280,000 square foot campus in Burlington, which houses its M Lab™ Collaboration Center, a shared exploratory environment where the company's scientists and engineers work with customers to learn about the latest techniques in biomanufacturing.



MilliporeSigma ribbon cutting ceremony

Indigo Agriculture

Indigo Ag, an agriculture biotechnology company known for its microbiome technology that helps farmers' crops absorb nutrients and grow more efficiently, expanded its headquarters in the heart of the former Hood dairy plant in Charlestown.



Governor Baker visits Indigo Ag



MLSC staff tour Insulet



Imabiotech ribbon cutting ceremony



Moderna grand opening celebration

MANUFACTURING MIGHT

Alnylam Pharmaceuticals, Inc.

Alnylam's rapid growth in Massachusetts continued in 2018, adding more than 100 jobs and continuing construction on its 200,000 square foot manufacturing facility in Norton.

Insulet Corporation

In fall 2017, Insulet, a Billerica-based medical technology company broke ground, on its new 350,000 square foot manufacturing facility in Acton expected to be operational in 2019, adding 150 jobs.



Wave Life Sciences ribbon cutting ceremony

Moderna Therapeutics

Moderna Therapeutics cut the ribbon on a state-of-the-art 200,000 square foot biomanufacturing facility in Norwood. The new facility, a former Polaroid plant, will now house 200 employees advancing Moderna's pipeline of mRNA treatments.

Wave Life Sciences

The Cambridge-based biopharma company cut the ribbon on a new 90,000 square foot manufacturing facility in Lexington, adding 100-plus jobs to support the advancement of their clinical assets.

ALNYLAM PHARMACEUTICALS, INC.

Alnylam also expanded the footprint of its Cambridge headquarters in advance of the FDA approval of its lead drug candidate. The news of Alnylam Pharmaceutical's first drug, Patisiran, recently approved by the FDA, is a significant milestone for not only Alnylam, but for life sciences in Massachusetts.

The company, an MLSC tax awardee, harnessed the best parts of the Massachusetts life sciences ecosystem, from Nobel Prize-winning basic biomedical innovations at our world-class research institutions, to scientific collaborations to unlock the mysteries of delivering RNAi in the human body, to clinical trial expertise at our premier teaching and research hospitals, not to mention our smart and experienced life science investors.

To take a basic discovery from the lab bench to the hospital bed is quite a feat and they did it all, including manufacturing, here in Massachusetts. This is an amazing case study of what is possible when all parts of our ecosystem are healthy and thriving – truly a watershed moment for Massachusetts biotech.

NEW ARRIVALS

Ipsen

The global biopharmaceutical group announced that it would expand its existing presence in Cambridge to house its new North American headquarters, consolidating global commercial roles from its current U.S. headquarters in New Jersey and other North American outposts.

ImaBiotech

The French contract research organization opened its first U.S. office in Billerica, offering support services to drug companies in preclinical and clinical phases of development.

WuXi Biologics

Global biomanufacturer WuXi announced plans to construct a \$60 million biomanufacturing facility in Worcester. The facility will create a projected 150 new jobs and fill a critical contract manufacturing role in Massachusetts' life sciences ecosystem.



Ipsen announces headquarters move at BIO 2018



STEM EQUIPMENT AND SUPPLIES PROGRAM

The STEM Equipment and Supplies Grant Program enables under-resourced high schools and middle schools throughout the Commonwealth to purchase essential and state-of-the-art equipment, materials, supplies, and technology that supports life sciences education and training. The program also offers funding for professional development to ensure that schools have teachers that are trained to use the equipment, access to relevant curricula that deploys the equipment in labs, and activities that support learning goals throughout the academic year.

“This support has allowed the school to create two Career and Technical Education (CTE) pathways for students: Biotechnology and the AP STEM Pathway. With MLSC funding support, EBHS has purchased computers, biotechnology equipment, 3D printers, and supplies for use in all of the science classrooms.”

— *Amanda Dillingham, Science Teacher at East Boston High School*

To date, the program has awarded over \$16.5 million to 170 high schools and middle schools located in 13 Massachusetts counties and Gateway Cities, including every vocational technical school with a life sciences program.

During Fiscal Year 2018, 31 schools purchased equipment and supplies totaling more than \$1.4 million to enhance existing programming or to implement new curricula. Students learned a variety of life sciences skills, such as microscopy, electrophoresis, spectroscopy, PCR, chromatography, and 3D printing.

FISCAL YEAR 2018 HIGHLIGHTS

Nashoba Valley Technical High School in Westford celebrated the re-opening of its enhanced Engineering & Robotics Lab in October.

Goodrich Academy in Fitchburg celebrated the opening of its new Life Sciences Lab in March.

New Bedford High School celebrated the opening of its new Biotechnology Lab in May.



East Boston High School biotechnology students wear their new lab coats after the school received a \$110,000 grant



Students at the Boys & Girls Club engage in fun STEM learning activities

A central piece of fulfilling the MLSC's commitment to supporting the development of the life sciences in Massachusetts is investing in the next generation of scientists, engineers, and entrepreneurs.

One path to accomplishing this central goal is that throughout the fiscal year, the MLSC – at the discretion of the President & CEO and with the approval of Board of Directors – can provide additional funds to new and existing programs or initiatives.

“There are kids that need us and we want them to come through the doors.”
— *Derek Heim,*
interim CEO of the Boys & Girls Club of Taunton,
Taunton Gazette,
September 27, 2018

BOYS & GIRLS CLUB

The MLSC made a transformational \$50,000 grant to the Boys & Girls Club of Taunton toward the organization's STEM education program, providing Taunton youth with an integrated, experiential approach to learning and applying concepts, which will prepare them to solve complex 21st century problems. The ultimate goal of this programming is to help meet the educational needs of Taunton's youth by supplementing and reinforcing what they learn in school.

By providing state-of-the-art technologies (3D printer, sprout computers, microscopes, robotics equipment, etc.) the Boys & Girls Club of Taunton is helping their young people compete with students from every community in Massachusetts and across the country for highly-skilled jobs in the modern workforce. The grant to Taunton builds upon a similar \$50,000 grant made to the Boys & Girls Club of Brockton in Fiscal Year 2017.

LIFE SCIENCE CARES

The life sciences ecosystem in Massachusetts continues to grow exponentially and so does our commitment to developing and maintaining a deliberate, coordinated, and outcomes-driven approach to ensure that Massachusetts students are prepared for successful careers in our vibrant industry.

In doing so, the MLSC and Life Science Cares teamed up to provide \$15,000 in funding to three non-profits to support their respective programs, which train young adults and adults for careers in the life sciences industry.

The non-profits, Just-A-Start, The Possible Project, and Year Up each received \$5,000 in funding, in March of 2018, to further support their workforce training initiatives. These grants build upon the MLSC's historical support of all three organizations.

“With support from Massachusetts Life Sciences Center and Life Science Cares, we'll be able to reach more talented and motivated local youth in need of an opportunity—and more companies in need of skilled, motivated talent.”
— *Bob Dame, Executive Director of Year Up Greater Boston*

HIGH SCHOOL APPRENTICESHIP CHALLENGE

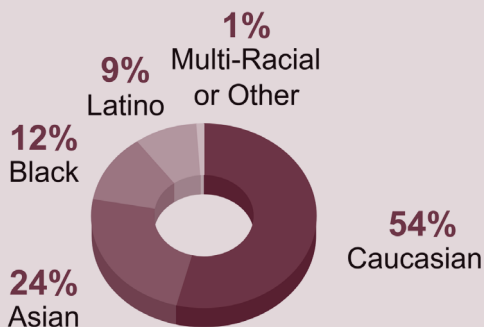
The Massachusetts Life Sciences Center launched its High School Apprenticeship Challenge in 2016 as a pilot and has since expanded its reach to benefit more students each year. The program facilitates and funds paid internship opportunities for high school students and offers after-school laboratory training for underrepresented students to prepare them for internships. Since the program's inception, 106 internships were supported at 35 different companies and research institutions.

During the summer of 2017, the program supported **94** apprenticeships with **44** organizations. Of the students that participated:

55%
female



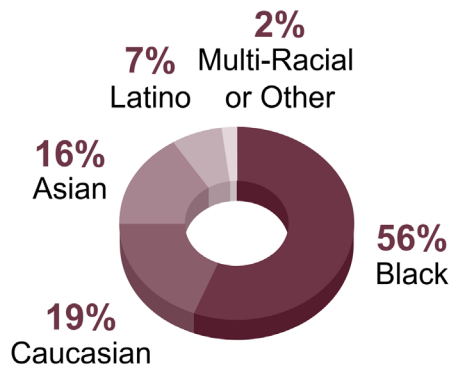
43%
attended economically
disadvantaged high schools*



In the spring of 2018, the MLSC kicked off its third round of the program with after-school lab training cohorts in Brockton and Worcester.

Of the **45** students that participated in the training:

62%
female



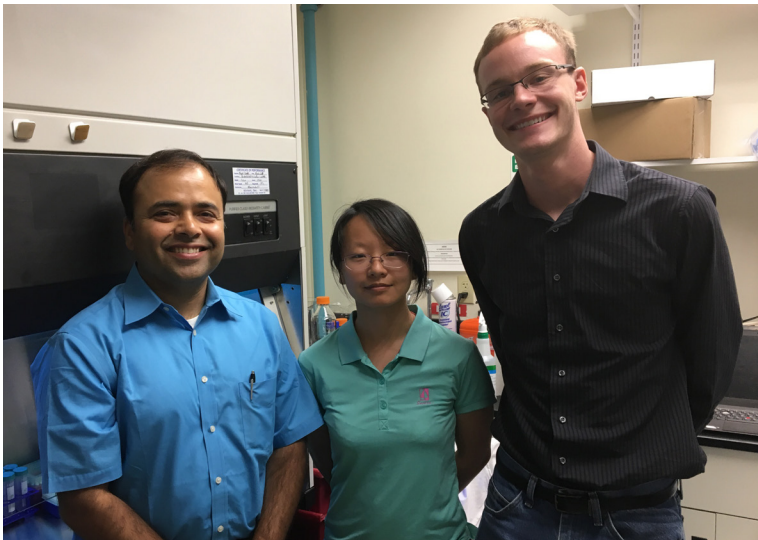
Students who successfully completed the training, demonstrated proficiency of skills, and were available for a six-week internship, participated in paid research positions at Dana-Farber Cancer Institute, Massachusetts General Hospital, MassBiologics, The Forsyth Institute, University of Massachusetts Medical School, and Worcester Polytechnic Institute.

Funding for summer 2017 internships totaled nearly **\$215,000**.

* The MLSC considered schools in economically disadvantaged areas with at least 25% of its students participating in one or more state-administered programs, such as Supplemental Nutrition Assistance Program, Transitional Assistance for Families with Dependent Children, the Department of Children and Families Foster Care Program or MassHealth.



INTERNSHIP CHALLENGE



The Internship Challenge creates hundreds of new internship opportunities each year for college students interested in pursuing careers in the life sciences industry. The program connects employers with students through an online platform and provides funding that enables small companies to hire paid interns. Offered year-round, the program expands the pool of prospective employees who have practical experience, increases opportunities for mentoring, enables more students to explore career opportunities, and exposes students to entrepreneurship.

Rachit Ohri (left), Enable Life Sciences Founder and CEO, with his interns Shilan Dong (center) and Jason Cahoon (right). Shilan is now a full time employee with the Massachusetts Biomedical Initiatives based company, which has hosted a total of six interns through the Internship Challenge since 2016.

SINCE 2009



3,366
internships



680
host
organizations



210
academic
institutions
represented

2017-2018 PROGRAM YEAR



285
host
organizations



107
academic
institutions
represented



535
internships



24%
68 of this year's host
companies were first-time
participants in the program



47%
were female



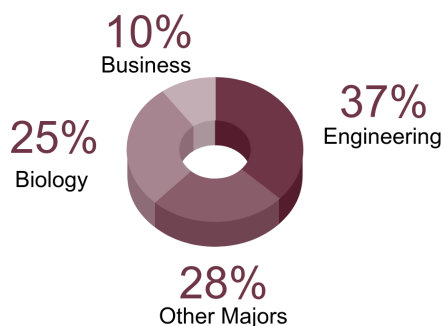
19%
101 reported being hired for
full- or part-time positions
directly following their internship



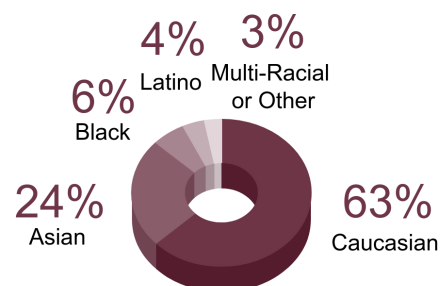
8%
41 of this year's interns were
enrolled in a community
college of which 13 (32%)
were minorities

2017-2018 INTERN BREAKDOWN

By Major



By Race



MASSNEXTGEN

The Massachusetts Next Generation Initiative (MassNextGen), launched in Fiscal Year 2018 as a five year, \$1 million initiative, is aimed at improving gender parity in the next generation of life sciences entrepreneurs.

Each year through a competitive process, women entrepreneurs of promising early-stage life science companies are awarded a package of support, which includes grant funding and/or access to a network of seasoned Executive Coaches from the life sciences ecosystem to refine their business strategies and effectively raise capital.

The initiative is a cross-sector effort supported by our anchor sponsor Takeda Pharmaceuticals, as well as new sponsors, King Street Properties and Sanofi who have helped us grow the initiative to a \$1.375 million commitment. In addition, over 15 experts including life science investors and serial entrepreneurs provide group and one-on-one coaching to awardees. Together, the MLSC, the MassNextGen sponsors, and our Executive Coaches are



Lieutenant Governor Karyn Polito addresses MassNextGen awardees and audience at award ceremony at 200 Cambridge Park Drive

sending a powerful message about the importance of the type of talent needed for our ecosystem to succeed.

Pam Randhawa, a member of the MassNextGen coaching network, MLSC Board of Directors, and CEO and Foundation of Empiriko, stated, "MassNextGen aims to identify promising women-led life science

companies and to ensure that the individuals leading them have the tools to succeed, thereby providing an opportunity for Massachusetts to gain a competitive advantage by having women equally represented."

MASS NEXT GEN



MassNextGen sponsors, King Street Properties and Takeda, join Lieutenant Governor Karyn Polito and MLSC leadership at the award ceremony

**"We at the Massachusetts Life Sciences Center, together with our partners, are committed to being an agent of change in addressing the issue of gender parity in entrepreneurship."
— Jennifer Griffin,
MLSC Vice President
of Industry Programs & Relations**

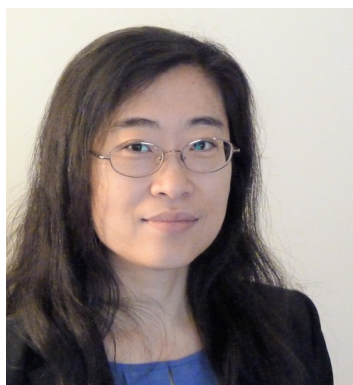


Elizabeth O'Day, CEO
Olaris Therapeutics
Awarded: \$62,500 and executive coaching

O'Day founded Olaris in 2014 to change how diseases are diagnosed and treated. Using a metabolomics platform and machine learning algorithms, biomarkers of response are identified so that the right therapies can be identified and administered to the right patients, avoiding complications that many patients face when determining the most effective therapies.

The company filed preliminary patents in 2018 and O'Day is the co-chair for Global Future Council on Biotechnology.

"MLSC has been a catalyst in my company's growth. With the funding, we were able to hire our first full-time employee. This let us accomplish our goals faster, raise more financing and in turn hire more people. In addition, the executive coaching has helped me polish and refine our business strategy so that I have an action plan to turn my vision into a reality."



Yue Shao, President
Buy Time Medical
Awarded: executive coaching

Buy Time Medical was co-founded by Shao to develop a medical ice slurry for therapeutic hypothermia, i.e. medical protective cooling.

The company received a NIH I-Corps Award in 2018.



Vera Hoffman, CEO
Reveal Pharmaceuticals
Awarded: \$62,500 and executive coaching

Hoffman co-founded Reveal Pharmaceuticals to improve patient safety by replacing the gadolinium-based contrast agents used in 30 million contrast-enhanced MRI scans annually with a safer non-gadolinium-based agent.

The company received a supplemental grant from the NIH in 2018.

Laura Indolfi, President & CEO
PanTher Therapeutics
Awarded: executive coaching

PanTher builds on Indolfi's experience to develop a drug embedded polymeric matrix that is capable of delivering tailored release from weeks to several months.

Indolfi presented at the 2018 BIO Investor Forum in San Francisco, CA.



Akshaya Shanmugam, CEO
Lumme Labs
Awarded: executive coaching

Shanmugam co-founded Lumme to develop a software platform that can disrupt the treatment of addiction.

Shanmugam was recognized in the 2018 MedTech Boston's 40 under 40 Healthcare Innovators.



"The MassNextGen program has been immensely helpful for connecting Reveal with the network, knowledge, and resources of industry coaches who have deep expertise in life sciences. MNG has granted access we would have found challenging to establish on our own, and added great value for Reveal."



A LIFE SCIENCES INNOVATION HUB IN THE BERKSHIRES

The Berkshire Innovation Center, Inc. (BIC) is a non-profit created to promote and accelerate the innovation and growth of existing life sciences supply chain and advanced manufacturing companies in Western Massachusetts. In September 2018, Governor Charlie Baker and Lieutenant Governor Karyn Polito joined state and local officials in Pittsfield to break ground on the \$13.7 million project creating a life sciences innovation hub for the region.

The Baker-Polito Administration has committed nearly \$12.5 million towards the project through a \$12 million allocation from the MLSC and the approval of \$450,000 from MassDevelopment. This funding leverages an additional \$1 million

commitment from the City of Pittsfield and \$300,000 from the Pittsfield Economic Development Authority.

“The Berkshire Innovation Center at the William Stanley Business Park in Pittsfield will change the landscape for advanced manufacturing research and development and increase the pipeline of highly trained employees,” said Pittsfield Mayor Linda Tyer.

The two-story, 20,000-square-foot workforce development center will include training facilities, biotech wet space, clean rooms, office and event space for small to medium-sized companies in the region. It is intended to support economic growth, job creation and private investment in the region. Manufacturing represents a key industry base in the Berkshire County with nearly 5,000 jobs in the

manufacturing sector (the fifth largest industry in the region).

“It is comforting to know that I won’t have to move to Boston or New York to receive the training I need to get the job that I want. I will be able to explore the STEM field in a world-class facility while still being able to stay in my hometown of Pittsfield.”

— *Trista Dearstyne, Pittsfield High School Senior*

“This is a great opportunity for all of us to be able to promote innovation around life sciences, around advanced manufacturing, and most importantly around workers, especially our younger workers.”

— *Jay Ash, Secretary of Housing and Economic Development*



Governor Charlie Baker, Lieutenant Governor Karyn Polito, Congressman Richard Neal, and MLSC President & CEO Travis McCready applaud the BIC Launch Event in Pittsfield

A critical component to a thriving life sciences ecosystem is having plenty of opportunities for early-stage companies to have visibility within, and support from, the broader ecosystem. In order to propel these efforts, the MLSC also funds innovation challenges throughout the Commonwealth and across life sciences sectors. The MLSC dollars are leveraged by other challenge sponsors increasing the impact these critical activities have in our ecosystem. In Fiscal Year 2018, the MLSC supported three such challenges:

BUGS, DRUGS, AND BEYOND

This fall 2017 challenge provided a customized package of support from Janssen Human Microbiome Institute and JLABS, including \$75,000 in funding, coaching, or entrance to Boston JLABS sites to help advance microbiome-based human health solutions. As part of this, the MLSC awarded \$50,000 to Holobiome, whose lead product consists of naturally occurring bacteria that modulates host neurotransmission for broad therapeutic utility.

Holobiome has gone on to execute a new collaboration with Johnson & Johnson that focuses on



MLSC VP of Industry Programs & Relations Jennifer Griffin presents the Bugs, Drugs, and Beyond Quick Fire Challenge funding award to Holobiome



M2D2 \$200K Challenge Program awardees and staff

understanding the effect of microbial species on the Gut Brain Axis and specifically on improving sleep.

M2D2

This challenge supports seed and early-stage medical device and biotech companies enabling them to showcase their innovative ideas. The M2D2 \$200K Challenge Program was sponsored by the MLSC, Amgen, Johnson & Johnson Innovation, Boston Scientific, MPR Product Development, Mintz Levin, and Regulatory and Quality Solutions (R&Q). The \$50,000 investment from MLSC will be used to advance winning technologies using core research facilities at UMass Lowell and the UMass Medical School. This year's Massachusetts awardees are: Bitome, 149 Medical, Versatope Therapeutics, and LeukoLab.

LEVER, INC.

In August 2018, MLSC provided Lever, Inc. a grant of \$225,000, over the next three years, to support their newly launched

entrepreneurial challenges in manufacturing and health technology to foster regional entrepreneurship, attract entrepreneurs from outside the region to start companies in Berkshire County, and build an entrepreneurial ecosystem to foster economic and job growth throughout the Berkshires.

Additionally, these programs will aid in building a pipeline of potential residents of the Berkshire Innovation Center in Pittsfield. The MLSC was joined by additional sponsors Massachusetts Technology Collaborative, Berkshire Bank, and Williams College.

“This multi-institutional commitment signals broad support for Lever and its mission to lift the regional economy by fostering growth companies here in Berkshire County.”
— Jeffrey Thomas,
Executive Director of Lever

CAPITAL FUND

The MLSC uses its Capital Fund to strategically invest in innovation infrastructure, training programs that deliver the next generation of a diverse and well-educated life sciences workforce, and shared work spaces for early-stage companies.

To date, the MLSC infrastructure investments have contributed to the creation of more than 1.9 million square feet of new life sciences research and manufacturing space across the Commonwealth, while creating more than 5,800 jobs in the building trades and in the life sciences sector.



THE MLSC INVESTMENT IN THE INSTITUTE FOR APPLIED LIFE SCIENCES (IALS) FUNDED:

- Space and equipment for more than 30 core facilities on campus, available to both internal and external stakeholders
- IALS's Light Microscopy Core Facility designated as a Nikon Center of Excellence (one of eight in the U.S.)
- More than 200 faculty from 28 different departments across the Amherst campus are utilizing IALS
- 65 industry sponsored awards and 169 federal, state, and foundation awards, totaling \$59 million as of March 31, 2018

FISCAL YEAR 2018

Overall, 19 previously funded capital projects were completed during the fiscal year, bringing the total completed projects to 63 representing nearly \$369 million of the MLSC investment.

UMASS AMHERST

In Fiscal Year 2018, MLSC's largest capital project, a \$95 million investment to build the Institute for Applied Life Sciences (IALS) at UMass Amherst was completed. The interdisciplinary institute, designed to catalyze applied and translational research projects, develop alliances with industry and government partners, and participate in the training of students for industry-relevant careers, positions the campus to more effectively contribute to the regional economic development of Western Massachusetts.



IALS Human Motion-Human Testing Center

BUILDING BIOMANUFACTURING IN MASSACHUSETTS

Due to the increased globalization of biopharmaceuticals in recent years, the manufacturing industry has been pushing for innovative ways to address the new challenges.

Massachusetts has long been known as a hub of research and development and drug discovery.

The next generation of therapies and medical technology will require new paradigms in process design and manufacturing to go from lab bench, to clinic, to patients.

To further support biomanufacturing in Massachusetts, the MLSC has partnered with the National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL), an initiative dedicated to continuing domestic investment and innovation in the biopharmaceutical manufacturing industry.

To support NIIMBL's northeastern region, the MLSC has committed up to \$20 million in cost-share for selected projects over five years. In Fiscal Year 2018, the MLSC partnered with NIIMBL on five projects, including one to improve the biomanufacturing workforce and four to develop technical innovations for biomanufacturing.

The MLSC is continuing to investigate different ways in which it can support biomanufacturing innovation in the Commonwealth with the goal of reducing drug shortages and cost of production as well as improving the availability and accessibility of treatments and therapies for patients in Massachusetts and around the world.

The following represents the MLSC's assets, liabilities as of June 30, 2018 as well as its receipts and expenditures for the fiscal year ending June 30, 2018.

STATEMENT OF NET POSITION

Current Assets	\$ 42,929,336
Current Assets - assets held on behalf of Neuroscience Consortium	1,079,956
Noncurrent Assets	2,084,107
Capital Assets	39,501
Total Assets	\$ 46,132,900

Current Liabilities	\$ 12,930,167
Noncurrent Liabilities	1,224,956
Total Liabilities	\$ 14,155,123

Net Investment in Capital Assets	\$ 39,501
Net Investment in Capital Assets - unrestricted	31,938,276
Total Net Position	\$ 31,977,777
Total Liabilities and Net Position	\$ 46,132,900

STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

Operating revenues	\$ 31,823,429
Operating expenses	(38,897,535)
Operating loss	(7,074,106)
Nonoperating revenues	496,283
Capital contributions	-
(Decrease) Increase in net position	\$ (6,577,823)

MLSC's Audited Financial Statements are available upon request.

FISCAL YEAR 2018 INVESTMENTS

Awards Approved by the MLSC Board of Directors

Month/year	Awardee (Description, if applicable)	Program	Headquarters	Award
Sep-17	Fresenius Kabi Compounding LLC	MassTAG	Canton	\$735,000
Sep-17	Holobiome (Microbiome Quick Fire Challenge)	Business Plan Competition	Cambridge	\$50,000
Sep-17	Lever, Inc.	Investment Fund	North Adams	\$44,858
Nov-17	FY18-19 Internship program	Internship Challenge	Various	\$3,700,000
Nov-17	2018 High School Apprenticeship program	High School Apprenticeship	Various	\$500,000
Jan-18	Berkshire Innovation Center	Capital (Earmark)	Pittsfield	\$2,300,000
Jan-18	WPI (SPIDER Project)	Capital - NIIMBL	Worcester	\$140,000
Jan-18	UMass Lowell (Lyophilization Project)	Capital - NIIMBL	Lowell	\$1,000,000
Jan-18	UMass Lowell (M2D2 Challenge)	Business Plan Competition	Lowell	\$50,000
Jan-18	Life Science Cares	Investment Fund	Cambridge	\$17,300
Jan-18	Boys & Girls Club of Taunton	Investment Fund	Taunton	\$47,280
Apr-18	Alkermes, Inc.	Tax Incentive Program	Waltham	\$1,500,000
Apr-18	Alnylam Pharmaceuticals, Inc.	Tax Incentive Program	Cambridge	\$1,650,000
Apr-18	EMD Holding Corporation	Tax Incentive Program	Burlington	\$1,350,000
Apr-18	Insulet Corporation	Tax Incentive Program	Billerica	\$3,690,000
Apr-18	Siemens Healthcare Diagnostics Inc.	Tax Incentive Program	East Walpole	\$2,009,000
Apr-18	ModernaTX, Inc.	Tax Incentive Program	Cambridge	\$1,725,000
Apr-18	Abiomed Inc.	Tax Incentive Program	Danvers	\$750,000
Apr-18	WAVE Life Sciences	Tax Incentive Program	Cambridge	\$1,500,000
Apr-18	Instrumentation Laboratory Company	Tax Incentive Program	Bedford	\$525,000
Apr-18	Astellas Institute for Regenerative Medicine	Tax Incentive Program	Marlborough	\$150,000
Apr-18	Berkshire Sterile Manufacturing	Tax Incentive Program	Lee	\$340,000
Apr-18	L.E.A.F. Pharmaceuticals LLC	Tax Incentive Program	Woburn	\$300,000
Apr-18	Citra Labs, LLC	Tax Incentive Program	Hanover	\$450,000
Apr-18	Indigo Agriculture, Inc.	Tax Incentive Program	Boston	\$1,125,000
Apr-18	Vicarious Surgical Inc.	Tax Incentive Program	Cambridge	\$150,000
Apr-18	Spero Therapeutics, Inc.	Tax Incentive Program	Cambridge	\$150,000
Apr-18	Decibel Therapeutics, Inc.	Tax Incentive Program	Boston	\$200,000
Apr-18	ProTom International Holding Corporation	Tax Incentive Program	Wakefield	\$150,000
Apr-18	MassNextGen Cohorts	MassNextGen	Cambridge	\$50,000
Jun-18	SQZ Biotech	Tax Incentive Program	Watertown	\$240,000
Jun-18	Rubius Therapeutics	Tax Incentive Program	Cambridge	\$750,000
Jun-18	Lantheus Medical Imaging, Inc.	Tax Incentive Program	North Billerica	\$480,000
Jun-18	Evelo Biosciences, Inc.	Tax Incentive Program	Cambridge	\$465,000
Jun-18	Enanta Pharmaceuticals, Inc.	Tax Incentive Program	Watertown	\$270,000
Jun-18	Lever, Inc (Lever Challenge)	Other	North Adams	\$225,000
Jun-18	MIT/WPI (Blended Learning Cell Therapy Course)	Capital - NIIMBL	Cambridge	\$599,696
Jun-18	MassBiologics	Capital - NIIMBL	Mattapan	\$447,566
Jun-18	UMass Lowell	Capital - NIIMBL	Lowell	\$250,000
TOTAL FISCAL YEAR 2018 AWARDS				30,075,700

CERTIFIED LIFE SCIENCES COMPANIES

List of Certified Life Sciences Companies as of June 30, 2018

Company	Location	Company	Location
3Derm Systems, Inc.	Cambridge	Indigo Agriculture, Inc.	Boston
908 Devices, Inc.	Boston	InsomniSolv, Inc.	Beverly
AbbVie, Inc.	Worcester	Instrumentation Laboratory Company	Bedford
Abiomed, Inc.	Danvers	Insulet Corporation	Billerica
Acorda Therapeutics, Inc.	Waltham	inviCRO, LLC	Boston
Agile Devices Inc.	Cambridge	Jounce Therapeutics, Inc.	Cambridge
Akili Interactive Labs, Inc.	Boston	Kala Pharmaceuticals, Inc.	Waltham
Akita Innovations, Inc.	North Billerica	KEW Group Inc.	Cambridge
Akrivis Technologies LLC	Cambridge	L.E.A.F. Pharmaceuticals, LLC	Woburn
Alcyone Lifesciences, Inc.	Concord	Lantern Pharma, Inc.	Cambridge
Aldatu Biosciences	Cambridge	Lantheus Medical Imaging, Inc.	N. Billerica
Alkermes, Inc.	Waltham	Lariat Biosciences, Inc.	Beverly
Alnylam Pharmaceuticals, Inc.	Cambridge	LayerBio, Inc.	Arlington
Amgen, Inc.	Cambridge	LX Medical Corporation	Westwood
Aquinnah Pharmaceuticals, Inc.	Cambridge	Masy Systems, Inc.	Pepperell
Astellas Institute for Regenerative Medicine	Marlborough	Matrivax R&D Corporation	Boston
Barrett Technology Inc.	Newton	MedicaMetrix, Inc.	Wayland
Berkshire Sterile Manufacturing	Lee	Micro-Leads, Inc.	Boston
Bio2 Technologies, Inc.	Woburn	Moderna Therapeutics, Inc.	Cambridge
Bluebird Bio, Inc.	Cambridge	New England Biolabs, Inc.	Ipswich
Blueprint Medicines Corporation	Cambridge	Nitto Denko AVECIA, Inc.	Milford
Boston Heart Diagnostics Corporation	Framingham	Nova Biomedical Corporation	Waltham
Cam Med LLC	West Newton	NxStage Medical, Inc.	Lawrence
Charles River Laboratories, Inc.	Wilmington	Olaris Therapeutics, Inc.	Cambridge
Charm Sciences, Inc.	Lawrence	Platelet Biogenesis, Inc.	Chestnut Hill
Citra Labs, LLC	Hanover	PNP Research Corporation	Drury
Cognition Medical Corp.	Cambridge	ProTom International Holding Corporation	Wakefield
Commonwealth Diagnostics International, Inc.	Salem	Quanterix Corporation	Cambridge
Confer Health	Charlestown	Quest Diagnostics, Inc.	Cambridge
Covaris, Inc.	Woburn	Radius Health, Inc.	Waltham
Cre8MDI LLC	Chelmsford	REBIScan, Inc.	Cambridge
CSA Medical, Inc.	Lexington	Reveal Pharmaceuticals, Inc.	Cambridge
Decibel Therapeutics, Inc.	Boston	Revolution Biosciences, LLC	Boston
DetectoGen, Inc.	Grafton	Riparian Pharmaceuticals	Boston
DS Labs (dba Kohana)	Canton	Rubius Therapeutics	Cambridge
EMD Holding Corporation	Burlington	Sage Therapeutics, Inc.	Cambridge
EMD Millipore Corporation	Billerica	Seres Therapeutics, Inc.	Cambridge
Emulate, Inc.	Boston	Shire Human Genetic Therapies, Inc.	Lexington
Enanta Pharmaceuticals, Inc.	Watertown	Siemens Healthcare Diagnostics, Inc.	East Walpole
Eutropics Pharmaceuticals, Inc.	Cambridge	Snapdragon Chemistry	Cambridge
Evelo Biosciences, Inc.	Cambridge	Spero Therapeutics, Inc.	Cambridge
Excellims Corporation	Acton	SQZ Biotechnologies Company	Boston
Felicitex Therapeutics Inc.	Newton	T2 Biosystems, Inc.	Lexington
First Light Biosciences, Inc.	Bedford	Takeda Pharmaceuticals America, Inc.	Cambridge
Foundation Medicine, Inc.	Cambridge	TESARO, Inc.	Waltham
Fresenius Kabi Compounding USA, LLC	Canton	Triton Systems, Inc.	Chelmsford
Fulcrum Therapeutics, Inc.	Cambridge	uniQure, Inc.	Lexington
Ginkgo Bioworks, Inc.	Boston	Vaxess Technologies, Inc.	Cambridge
Hepatochem, Inc.	Cambridge	Vicarious Surgical, Inc.	Cambridge
Holobiome, Inc.	Cambridge	WAVE Life Sciences	Cambridge
HydroGlyde Coatings, LLC	Brookline	Windgap Medical	Somerville

CAPITAL AWARDS

Capital Awards from inception through June 30, 2018

Infrastructure Investments to Accelerate Innovation	Total Award	Year of Award	Status
Bay Path College	\$50,000	FY 2013	Completed
Bay Path University	\$500,000	FY 2015	Completed
BayState Medical Center/ Health Informatics & Technology Innovation Center	\$5,500,000	FY 2013	Completed
Berkshire Community College	\$500,000	FY 2015	Completed
BioBuilder	\$500,000	FY 2017	Ongoing
Boston Children's Hospital	\$4,014,031	FY 2013	Completed
Boston Children's Hospital	\$2,263,133	FY 2015	Ongoing
Boston University Biomedical Lab and Clinical Sciences Program	\$180,000	FY 2015	Completed
Boston University Business Innovation Center	\$363,750	FY 2015	Completed
Boston University Medical School	\$1,743,648	FY 2015	Completed
Brigham & Women's Hospital	\$2,603,537	FY 2015	Completed
Bristol Community College	\$4,400,000	FY 2017	Ongoing
Bunker Hill Community College	\$200,000	FY 2013	Completed
Cape Cod Community College	\$395,485	FY 2014	Completed
City of Taunton	\$55,000	FY 2014	Completed
Dana Farber Molecular Cancer Imaging Center	\$10,000,000	FY 2012	Completed
Dana-Farber Cancer Institute	\$4,629,019	FY 2017	Ongoing
Dean College	\$297,030	FY 2017	Ongoing
Framingham State University	\$454,000	FY 2017	Completed
Framingham State University	\$3,000,000	FY 2014	Completed
Framingham Wastewater and Pumping Station	\$12,860,534	FY 2009	Completed
Gloucester Marine Genomics Institute	\$2,744,219	FY 2017	Ongoing
Harvard Medical School	\$4,345,000	FY 2017	Ongoing
Harvard Medical School	\$4,999,921	FY 2013	Completed
Harvard School of Public Health	\$4,912,307	FY 2017	Ongoing
Holyoke Community College	\$3,800,000	FY 2013	Completed
Holyoke Community College	\$300,000	FY 2015	Ongoing
Institute for Protein Innovation	\$5,000,000	FY 2017	Ongoing
Joslin Translational Center for the Cure of Diabetes	\$5,000,000	FY 2012	Completed
Just-A-Start	\$46,099	FY 2014	Completed
Just-A-Start	\$49,992	FY 2015	Completed
LabCentral	\$4,955,515	FY 2013	Completed
LabCentral	\$5,000,000	FY 2014	Completed
MA Green High Performance Computing Center	\$4,540,000	FY 2013	Completed
Marine Biological Laboratory in Woods Hole	\$10,000,000	FY 2009	Completed
Massachusetts Institute of Technology	\$1,838,000	FY 2015	Completed
MassBay Community College	\$50,000	FY 2014	Completed
MassBiologics- UMass Medical School	\$5,000,000	FY 2014	Completed
Merrimack College	\$500,000	FY 2017	Completed
Middlesex Community College	\$36,664	FY 2013	Completed
Middlesex Community College	\$3,000,000	FY 2014	Completed
Mount Wachusett Community College	\$500,000	FY 2014	Completed
Mt. Wachusett Community College	\$1,646,787	FY 2017	Ongoing
Museum of Science "Hall of Human Life"	\$5,000,000	FY 2012	Completed
New Bedford Economic Development Council	\$75,000	FY 2014	Completed

Infrastructure Investments to Accelerate Innovation	Total Award	Year of Award	Status
NIIMBL - WPI-SPIDER Project	\$140,000	FY 2018	Ongoing
NIIMBL - UMass Lowell-Lyophilization Scale-up	\$1,000,000	FY 2018	Ongoing
NIIMBL - MIT/WPI	\$599,696	FY 2018	Ongoing
NIIMBL - MassBiologics	\$447,566	FY 2018	Ongoing
NIIMBL - UMass Lowell	\$250,000	FY 2018	Ongoing
North Shore Biotech Consortium	\$5,000,000	FY 2014	Completed
Northern Essex Community College	\$1,242,000	FY 2013	Completed
Pittsfield Economic Development Authority	\$55,000	FY 2013	Completed
Pittsfield Economic Development Authority	\$9,670,000	FY 2014	Ongoing
Pittsfield (BIC)	\$2,300,000	FY 2018	Ongoing
Quincy College	\$78,799	FY 2013	Completed
Quincy College	\$500,000	FY 2014	Completed
Quinsigamond Community College	\$310,000	FY 2013	Completed
Quinsigamond Community College	\$499,880	FY 2014	Completed
Quinsigamond Community College	\$5,000,000	FY 2015	Ongoing
Regis College	\$50,000	FY 2013	Completed
Regis College	\$355,000	FY 2015	Completed
Roxbury Community College	\$3,000,000	FY 2015	Completed
Smith College	\$489,435	FY 2017	Completed
Springfield Technical Community College	\$85,673	FY 2013	Completed
Springfield Technical Community College	\$972,850	FY 2015	Completed
The Forsyth Institute	\$4,133,215	FY 2013	Completed
The Forsyth Institute	\$2,210,229	FY 2015	Completed
Tufts/Cummings School of Veterinary Medicine, NE Regional Biosafety Lab in Grafton	\$9,500,000	FY 2009	Completed
UMass Amherst Life Sciences Laboratories	\$95,000,000	FY 2013	Completed
UMass Boston /Dana Farber Center for Personalized Cancer Therapy	\$2,000,000	FY 2011	Ongoing
UMass Boston /Dana Farber Center for Personalized Cancer Therapy Expansion	\$8,000,000	FY 2014	Ongoing
UMass Boston VDC	\$588,848	FY 2014	Completed
UMass Dartmouth Advanced Technology Manufacturing Center (ATMC)	\$11,400,000	FY 2012	Completed
UMass Dartmouth/Vector Manufacturing Center	\$20,600,000	FY 2012	Completed
UMass Lowell Emerging Technologies and Innovation Center	\$10,000,000	FY 2012	Completed
UMass Lowell Innovation Hub	\$1,000,000	FY 2014	Completed
UMass Lowell M2D2	\$4,046,592	FY 2014	Completed
UMass Medical School	\$5,000,000	FY 2015	Completed
UMass Medical School Albert Sherman Center	\$90,000,000	FY 2010	Completed
University of Massachusetts Lowell Venture Cafe	\$5,000,000	FY 2017	Ongoing
Wellesley College	\$347,000	FY 2014	Completed
Wellesley College	\$49,376	FY 2015	Completed
Western New England University	\$500,000	FY 2014	Completed
Westfield State University	\$75,000	FY 2017	Ongoing
Worcester Polytechnic Institute (Biomufacturing Education & Training Center)	\$5,149,999	FY 2010	Completed
	<hr/>		
	\$434,494,829		

INTERNSHIP AND APPRENTICESHIP HOST COMPANIES

2017-2018 Program Year

Company/Organization/Institution	Location	Company/Organization/Institution	Location
3-D Matrix, Inc.	Waltham	Boston Micromachines Corporation	Cambridge
A Chemtek, Inc.	Worcester	Boyd Technologies	Lee
Access Vascular, Inc.	Woburn	BrainCo, Inc.	Somerville
ActivSignal, LLC	Natick	BrainSpec	Boston
Adeprix Corp.	Beverly	Brandeis University	Waltham
AdMeTech Foundation	Boston	Cam Med, LLC	West Newton
Admetsys Corporation	Boston	Cambridge Scientific Products	Watertown
Advanced Continuing Education Association	Boston	CarePoint Solutions, Inc.	Worcester
Advanced Radiation Therapy, LLC	Tyngsborough	Catapult Product Development, Inc.	Waltham
Advanced Research and Development	North Andover	Celdara Medical, LLC	Boston
AdvanDx, Inc.	Woburn	Cellaria Biosciences	Cambridge
Advantagene, Inc.	Boston	Celltreat Scientific Products	Shirley
Advirna, LLC	Cambridge	CeQur Corporation	Marlborough
Affera, Inc.	Watertown	China Med Device	North Andover
Agrivida	Medford	Cocoon Biotech, Inc.	Lowell
Akcea Therapeutics	Cambridge	Codiak Biosciences, Inc.	Cambridge
Akili Interactive Labs, Inc.	Boston	Cognito Therapeutics	Cambridge
Akita Innovations	Billerica	Common Sensing, Inc.	Cambridge
Akrivis Technologies, LLC	Cambridge	CONTINUUS Pharmaceuticals, Inc.	Woburn
Aldatu Biosciences	Cambridge	Convergent Dental	Natick
Alkeus Pharmaceuticals, Inc.	Somerville	Corbus Pharmaceuticals, Inc.	Norwood
Allurion Technologies	Natick	Corvia Medical	Tewksbury
Alphabioregen	Boston	CreaGen Biosciences, Inc.	Woburn
Alzheimer Disease Center	Quincy	CuriRx, Inc.	Wilmington
Amplifyus	Cambridge	Cyteir Therapeutics	Cambridge
Anderson Biotest, LLC	Bedford	CYTO Consulting	Lexington
Antagen Pharmaceuticals, Inc.	Boston	Datycs, Inc.	Methuen
Apex Neuro, Inc.	Boston	Day Zero Diagnostics, Inc.	Boston
Aphios Corporation	Woburn	Delsys, Inc.	Natick
Aquinnah Pharmaceuticals, Inc.	Cambridge	DentalTOR, Inc.	Boston
Arietis Corporation	Boston	Dermalytica, Inc.	Northborough
Artaic, LLC	Boston	Detector Technology, Inc.	Palmer
Arteriocyte Medical Systems (Isto Biologics)	Hopkinton	Diagnosys, LLC	Lowell
Arteriocyte, Inc. (Compass Biomedical)	Hopkinton	DNA Medicine Institute	Cambridge
Asaman, Inc.	Avon	DoDoc Corp.	Boston
Astarte Medical Partners	Boston	EChO- Eradiacte Childhood	Cambridge
Atantares Corp	Cambridge	Obesity Foundation, Inc	
Atlantic Lab Equipment, LLC	Salem	Elektrofi, Inc.	Cambridge
Atlas5D, Inc.	Cambridge	Embera NeuroTherapeutics, Inc.	Sudbury
Avedro, Inc.	Waltham	EMBR Labs, Inc.	Cambridge
Averica Discovery Services, Inc.	Marlborough	Enable Life Sciences, LLC	Worcester
Bach Pharma, Inc.	North Andover	Enlivity Corporation	Newton
Baril Corporation	Haverhill	EpigenDx, Inc.	Hopkinton
Barrett Technology, Inc.	Newton	Essential Life Solutions Ltd	Stoughton
Beantown Biotech, LLC	Natick	Established, Inc.	Haverhill
Behavioral Health Innovators, Inc.	S. Chatham	Etiometry, LLC	Boston
Berkshire Sterile Manufacturing, Inc.	Lee	Everost, Inc.	Sturbridge
Bio2 Technologies	Woburn	Experfy, Inc.	Boston
BioAxe Biosciences, Inc.	Cambridge	figur8, Inc.	Boston
BioBright, LLC	Cambridge	Fikst, LLC	Woburn
BioBuilder Educational Foundation	Cambridge	First Light Biosciences	Bedford
Biomedical Research Models, Inc.	Worcester	Five Star Manufacturing, Inc.	New Bedford
BioSensics, LLC	Cambridge	FloDesign Sonics	Wilbraham
Biostage, Inc.	Holliston	Fluigent, Inc.	Lowell
BioSurfaces, Inc.	Ashland	Founders Science Group	Taunton
Blossom Innovations	Boston	Fractyl Laboratories, Inc.	Waltham
Blue Sky Biotech, Inc.	Worcester	Frequency Therapeutics, Inc.	Woburn
Boston Bioskills Lab	Boston	FTL Labs Corporation	Amherst
Boston Institue of Biotechnology, LLC	Southborough	G & F Industries, Inc.	Sturbridge
Boston MedTech Advisors	Dedham	Gel4Med	Boston
Boston Microfluidics, Inc.	Medford	General Biotechnologies	Allston

INTERNSHIP AND APPRENTICESHIP HOST COMPANIES

Company/Organization/Institution	Location	Company/Organization/Institution	Location
Genocea Biosciences, Inc.	Cambridge	NEHI, Inc.	Cambridge
Genomic Expression, Inc.	Beverly	Neo-Advent Technologies, LLC	Marlborough
Genuity, LLC	Sudbury	NeuroMetrix, Inc.	Waltham
Genturi, Inc.	Woburn	NeuroScouting, LLC	Cambridge
Giner, Inc.	Newton	New England Peptide, LLC	Gardner
Glympse Bio, Inc.	Cambridge	New Health Sciences, Inc.	Cambridge
Glyscend, Inc.	Lowell	NinePoint Medical, Inc.	Bedford
Harmonus, Inc.	Allston	Nix, Inc.	Cambridge
HelixBind, Inc.	Marlborough	North East Biomedical, Inc.	Tyngsborough
HepatoChem, Inc.	Beverly	NovoBiotic Pharmaceuticals, LLC	Cambridge
Hindsight Imaging, Inc.	Brookline	Obsidian Therapeutics	Cambridge
Histogenics Corporation	Waltham	Obsidio Medical Incorporated	Boston
Holobiome	Cambridge	Octagon Therapeutics	Allston
Human Systems Integration	Walpole	OMNI Life Science, Inc.	East Taunton
Hyalex Orthopaedics, Inc.	Lexington	OpenClinica, LLC	Waltham
Imagine Optic, Inc.	Boston	Opus KSD, Inc.	Halifax
Imgen BioSciences, Inc.	Fall River	PanTher Therapeutics, Inc.	Cambridge
Innoblative Designs	Mansfield	Parsagen Diagnostics, Inc.	Boston
Innovara, Inc.	Hadley	Phosphorex, Inc.	Hopkinton
Institute for Pediatric Innovation, Inc.	Cambridge	Platelet Biogenesis	Boston
Intertech Engineering Associates	Westwood	PLC Medical Systems, Inc.	Milford
Invitrometrix Corporation	Lowell	PlenOptika, Inc.	Boston
InVivo Therapeutics Corporation	Cambridge	PNA Innovations, Inc.	Woburn
iOmics Corporation	Cambridge	Portal Instruments, Inc.	Cambridge
IonSense	Saugus	PraNA Biosciences, LLC	Worcester
iSpecimen, Inc.	Lexington	Precision Fabricators Ltd.	Stoughton
Jana Care	Boston	Pressure BioSciences, Inc.	South Easton
Keryx Biopharmaceuticals	Boston	Privo Technologies	Peabody
KSQ Therapeutics, Inc.	Cambridge	Prospective Research, Inc.	Beverly
LabCentral	Cambridge	ProterixBio, Inc.	Billerica
L.E.A.F. Pharmaceuticals	Woburn	Protom International Holding Corporation	Wakefield
Lariat Biosciences, Inc.	Beverly	Proveris Scientific Corporation	Marlborough
Lattice Automation, Inc.	Boston	qPharmetra	Lawrence
LaunchPad Medical, LLC	Boston	QSM Diagnostics, Inc.	Boston
LaVoie Health Sciences	Charlestown	Q-State Biosciences, Inc.	Cambridge
Liberating Technologies, Inc.	Holliston	Quad Technologies	Woburn
Life Science Nation	Boston	Quality Systems Integration, LLC	North Reading
Little Sparrows Technologies, LLC	Winchester	Quanterix Corporation	Lexington
Lumme, Inc.	Amherst	Quantum Diamond Technologies, Inc.	Somerville
Lymphedivas	Pittsfield	Quiet Therapeutics, Inc.	Lexington
Massachusetts Biomedical Initiatives	Worcester	Raiing Medical, Inc.	Boston
Massachusetts General Hospital	Boston	RAN Biotechnologies, Inc.	Beverly
Massachusetts Institute of Technology	Cambridge	Ras Labs, LLC	Quincy
MassBiologics	Boston	ReadCoor, Inc.	Cambridge
Macrogen Corp.	Cambridge	Respiratory Motion, Inc	Waltham
Matrivax R&D Corporation	Boston	ReSurFX, LLC	Lexington
MCR Labs, LLC	Framingham	ReWalk Robotics, Inc.	Marlborough
Median Technologies	Woburn	Right Submission, LLC	Newton
Medicinal Genomics Corporation	Woburn	Riparian Pharmaceuticals, Inc.	Cambridge
Merrimack Ventures, LLC	Cambridge	Robie Device Group	North Andover
(Avastus Preclinical Services)		Rogers Sciences, Inc.	Boston
Microbiotix, Inc.	Worcester	Rowat Management Services, LLC	Framingham
MicroCHIPS, Inc.	Lexington	RRMAE Engineering, LLC	Boxborough
Micro-Leads, Inc.	Boston	S2N Health, LLC	Boston
Millimeter Wave Systems, LLC	Amherst	SafePath Medical, Inc.	Amesbury
MolecularMD	Cambridge	Scim pact, LLC	Cambridge
My'deas, LLC	Woburn	Securus Medical Group, Inc.	Beverly
Myomo, Inc.	Cambridge	Seeding Labs	Boston
N2 Biomedical, LLC	Bedford	Selecta Biosciences, Inc.	Watertown
Nano Terra Inc.	Cambridge	SeLux Diagnostics	Watertown
nanoView Diagnostics, Inc.	Boston	SemiNex Corporation	Peabody

INTERNSHIP AND APPRENTICESHIP HOST COMPANIES

Company/Organization/Institution	Location
Senscio Systems, Inc.	Boxborough
SeqLL, LLC	Woburn
seqWell, Inc.	Beverly
Shepherd Therapeutics, LLC	Boston
Siamab Therapeutics, Inc.	Cambridge
Snapdragon Chemistry, Inc.	Cambridge
SofregenMedical, Inc.	Cambridge
Spectrus, LLC	Beverly
Spring Bank Pharmaceuticals, Inc.	Milford
SQZ Biotechnologies Company	Boston
STAR Analytical Services	Bedford
STC Biologics, Inc.	Cambridge
Syner-G Pharma Consulting	Southborough
TARIS Biomedical	Lexington
Tarveda Therapeutics	Watertown
Tetragenetics, Inc.	Arlington
The Learning Corp.	Lexington
Theragnostics, Inc.	Boston
Thermal Technologies Inc.	Cambridge
Thermedical, Inc.	Waltham
Tilos Therapeutics, Inc.	Cambridge
Toothprints	Hopkinton
Triton Systems, Inc.	Chelmsford
Unicus Pharmaceuticals, LLC	Taunton
Union Biometrica, Inc.	Holliston
Unum Therapeutics	Cambridge
UrSure, Inc.	Boston
UV Light Care, Inc.	Boston
Vantix Diagnostics, Inc.	Lowell
Veralase, LLC	Middleton
Virtudent	Boston
Vivonics, Inc.	Sudbury
VocaliD, Inc.	Belmont
Voluntis, Inc.	Cambridge
VRPhysio, Inc.	Boston
Warner Babcock Institute for Green Chemistry, LLC	Wilmington
Woodland Biosciences	North Grafton
WorldCare Clinical, LLC	Boston
Woundchek Laboratories, Inc.	Fall River
WuXi NextCODE Genomics USA, Inc.	Cambridge
X-CHEM, Inc.	Waltham
Xeno Therapeutics, Inc.	Boston
Xios Therapeutics, Inc.	Waltham
Xtal BioStructures, Inc.	Natick
XTuit Pharmaceuticals, Inc.	Waltham
Yurogen Biosystems	Worcester
ZATA Pharmaceuticals, Inc.	Worcester
ZeptoMetrix Corporation	Franklin
Zeteo Tech, LLC	Medford
UMass Amherst	Amherst
UMass Medical School	Worcester
Vertical Biometrics, LLC	Newton
Worcester Polytechnic Institute	Worcester

NUMBER OF HIGH SCHOOL INTERNS BY SCHOOL

High School	School Location	# of Interns
Abby Kelley Foster Charter High School	Worcester	1
Andover High School	Andover	1
Ashland High School	Ashland	1
Athol High School	Athol	1
Bancroft School	Worcester	2
Belmont High School	Belmont	2
Bishop Feehan High School	Attleboro	1
Boston Latin Academy	Boston	3
Brockton High School	Brockton	1
Cambridge Rindge and Latin School	Cambridge	1
Charlestown High School	Boston	1
Commonwealth School	Boston	1
Dighton-Rehoboth Regional High School	Dighton	1
Doherty Memorial High School	Worcester	4
East Boston High School	Boston	2
Essex Technical High School	Danvers	2
Hampden Charter School of Science	Chicopee	1
Holyoke High School	Holyoke	1
Hopkinton High School	Hopkinton	2
John D. O'Bryant School of Math and Science	Boston	1
Lexington High School	Lexington	2
Littleton High School	Littleton	1
Maimonides School	Brookline	1
Malden High School	Malden	1
Marblehead High School	Marblehead	3
Massachusetts Academy of Mathematics and Science	Worcester	4
McCann Technical School	North Adams	1
Medway High School	Medway	1
Middlesex School	Concord	1
Milton Academy	Milton	1
Minnechaug Regional High School	Wilbraham	2
Monson High School	Monson	1
New Bedford High School	New Bedford	2
New Mission High School	Boston	1
Newton Country Day School	Newton	1
Newton North High School	Newton	1
Noble and Greenough School	Dedham	1
North Andover High School	North Andover	4
Pembroke High School	Pembroke	1
Phillips Academy	Andover	3
Pioneer Valley Chinese Immersion Charter School	Amherst	4
Prospect Hill Academy Charter School	Cambridge	1
Revere High School	Revere	2
Somerville High School	Somerville	1
Swampscott High school	Swampscott	1
Taunton High School	Taunton	1
Tewksbury Memorial High School	Tewksbury	1
The Bromfield School	Harvard	2
Waltham High School	Waltham	1
Wilbraham & Monson Academy	Wilbraham	1
Winchester High School	Winchester	1
Woburn Memorial High School	Woburn	1
Worcester Technical High School	Worcester	12

NUMBER OF HIGH SCHOOL INTERNS BY DISTRICT

School District	# of Interns
Andover Public Schools	1
Ashland Public Schools	1
Athol-Royalston Regional School District	1
Belmont Public Schools	2
Boston Public Schools	10
Brockton Public Schools	3
Cambridge Public Schools	1
Dighton-Rehoboth Regional School District	1
Essex Technical School District	2
Everett Public Schools	1
Hampden-Wilbraham Regional School District	2
Harvard Public Schools	2
Holyoke Public Schools	1
Hopkinton Public Schools	2
Lexington Public Schools	2
Littleton Public Schools	1
Lowell Public Schools	1
Malden Public Schools	1
Marblehead Public Schools	3
Medway Public Schools	1
Monson Public Schools	1
New Bedford Public Schools	2
Newton Public Schools	1
North Andover Public Schools	4
Northern Berkshire Vocational School District	1
Pembroke Public Schools	1
Revere Public Schools	2
Somerville Public Schools	1
Swampscott Public Schools	1
Taunton Public Schools	1
Tewksbury Public Schools	1
Waltham Public Schools	1
Winchester Public Schools	1
Woburn Public Schools	1
Worcester Public Schools	17

NUMBER OF COLLEGE INTERNS BY SCHOOL

College/University	# of Interns	College/University	# of Interns
Babson College	3	North Shore Community College	4
Benjamin Franklin Institute of Technology	1	Northeastern University	85
Bentley University	3	Northern Essex Community College	3
Berkshire Community College	4	Northwestern University, IL	1
Boston College	6	Norwich University, VT	1
Boston University	40	Oxford College of Emory University, GA	1
Boston University BioScience Academy	3	Pennsylvania State University	1
Brandeis University	11	Pine Manor College	1
Bridgewater State University	2	Providence College, RI	2
Bristol Community College	4	Quincy College	2
Brown University, RI	1	Quinnipiac University, CT	1
Bucknell University, PA	2	Quinsigamond Community College	4
Bunker Hill Community College	6	Rensselaer Polytechnic Institute, NY	1
California Polytechnic State University	1	Rivier University	1
Carnegie Mellon University, PA	1	Rochester Institute of Technology, NY	3
Centre College, KY	1	Roxbury Community College	1
Clark University	1	Rutgers University, NJ	1
Colby College, ME	3	Salem State University	4
College of the Holy Cross	2	Simmons College	1
Cornell University, NY	2	Smith College	1
Corporate Education Group	1	Stonehill College	3
Duke University, NC	1	Suffolk University	7
Elms College	1	Syracuse University, NY	1
Emerson College	3	The Savannah College of Art and Design, GA	1
Emmanuel College	1	Tufts University	25
Endicott College	7	Tulane University	1
Fairfield University, CT	1	University of California, San Diego	1
Fitchburg State University	2	University of California, Santa Barbara	1
Framingham State University	3	University of Chicago	1
Franklin W. Olin College of Engineering	6	University of Connecticut	5
George Washington University, DC	1	University of Delaware	1
Gettysburg College, PA	1	University of Denver, CO	1
Georgia Tech, GA	1	University of Massachusetts Amherst	28
Gloucester Biotechnology Academy	7	University of Massachusetts Boston	6
Gordon College	6	University of Massachusetts Dartmouth	10
Grove City College, PA	1	University of Massachusetts Lowell	38
Hamilton College	1	University of Michigan	1
Harvard University	17	University of New Hampshire	2
Hobart and William Smith Colleges, NY	2	University of New Haven, CT	1
Hult International Business School	2	University of Pennsylvania	1
Johns Hopkins University, MD	1	University of Rhode Island	1
Loyola University Maryland	1	University of Tampa, FL	1
Massachusetts Bay Community College	3	University of Texas at Arlington	1
Massachusetts College of Art	2	University of Vermont	3
Massachusetts College of Liberal Arts	1	University of Washington	1
Massachusetts Institute of Technology	13	University of Wisconsin	1
Massachusetts Maritime Academy	1	Villanova University, PA	1
Massasoit Community College	2	Wellesley College	3
MCPHS University	9	Wentworth Institute of Technology	11
Merrimack College	5	Wesleyan University, CT	1
Middlebury College, VT	1	Western New England University	6
Middlesex Community College	11	Westfield State University	1
Mount Wachusett Community College	1	Worcester Polytechnic Institute	36
Nichols College	1		

In order to be eligible, students must be legal permanent residents of Massachusetts (able to provide proof of residency) OR attend(ed) a college or university located in Massachusetts (able to provide enrollment verification).

MASSACHUSETTS LIFE SCIENCES CENTER



Investing in the State of Innovation

The Massachusetts Life Sciences Center (MLSC) is an economic development and investment agency dedicated to supporting the growth and development of the life sciences in Massachusetts, home to the most verdant and productive life sciences ecosystem in the world. Through public-private funding initiatives, the MLSC supports innovation, research & development, commercialization, and manufacturing activities in the fields of biopharma, medical device, diagnostics, and digital health. Since its creation in 2007, the MLSC has strategically deployed over \$677 million in Massachusetts, through a combination of grants, loans, capital infrastructure investments, tax incentives, and workforce programs. These investments have created thousands of jobs, and propelled the development of new therapies, devices, and scientific advancements that are improving patient health and well-being in Massachusetts and beyond.

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