

MassBioEd

20
YEARS

BUILDING THE
LIFE SCIENCES
WORKFORCE

MassBioEd's Evolution

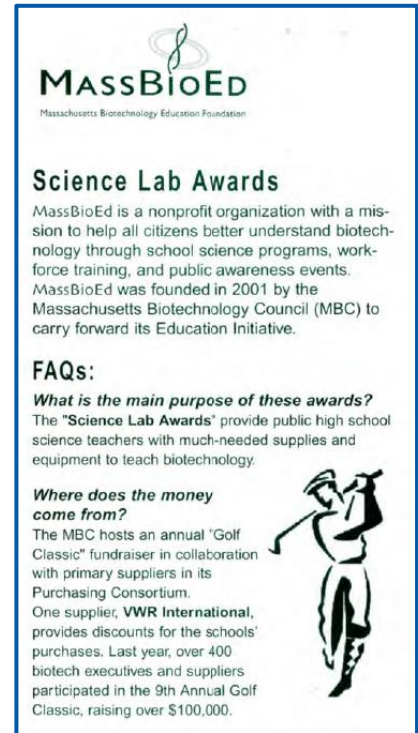
2001

MassBio, a not-for-profit organization that represents and provides services and support for the #1 life sciences cluster in the world, and 25 biotech CEOs identify strategies to retain and grow a talented workforce for the biotech industry in Massachusetts. Improving secondary life science education through teacher training and support is a top priority.

MassBioEd Foundation, a nonprofit educational charity, is established by MassBio to provide high-quality education and workforce development programming in collaboration with Massachusetts schools and colleges. Previously, MassBio had pioneered a series of science education programs, which then became part of MassBioEd, a nonprofit educational charity. As a strong advocate for education, Josh Boger, the former CEO of Vertex Pharmaceuticals, is the first large donor of the Foundation, and Genzyme gives the first corporate gift of \$250K with a five-year commitment. MassBio's 7th Annual Golf Outing kicked off MassBioEd's first fundraiser, raising \$38K, with 300 biotech executives and suppliers in attendance.

2002

MassBioEd is awarded \$500,000 from Commonwealth Corporation's BEST Initiative for creating an industry-driven biomanufacturing curriculum that combines training at community colleges with on-the-job and follow-up development at companies. The grant also funds industry internships for college faculty and state-of-the-art biomanufacturing training equipment for Roxbury and Middlesex Community Colleges.



MASSBIOED
Massachusetts Biotechnology Education Foundation


Science Lab Awards

MassBioEd is a nonprofit organization with a mission to help all citizens better understand biotechnology through school science programs, workforce training, and public awareness events. MassBioEd was founded in 2001 by the Massachusetts Biotechnology Council (MBC) to carry forward its Education Initiative.

FAQs:

What is the main purpose of these awards?
The "Science Lab Awards" provide public high school science teachers with much-needed supplies and equipment to teach biotechnology.

Where does the money come from?
The MBC hosts an annual "Golf Classic" fundraiser in collaboration with primary suppliers in its Purchasing Consortium. One supplier, **VWR International**, provides discounts for the schools' purchases. Last year, over 400 biotech executives and suppliers participated in the 9th Annual Golf Classic, raising over \$100,000.



MASSBIOED
Massachusetts Biotechnology Education Foundation

BEST INITIATIVE

Building Essential Skills through Training

Are you looking to:

- RECRUIT**
- SCREEN**
- TRAIN**
- RETAIN**

**Entry-Level
Biomanufacturing
and
Quality Control
Workers?**

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2003

MassBioEd expands course offerings for biotech workforce development, including An Overview of Clinical Research, Biotechnology Project Management, and Biomanufacturing & QC Technician Training.

MassBio and MassBioEd team up to create the landmark online, searchable Massachusetts Biotech Directory. The Directory provides a database of companies; job descriptions for a wide range of careers in small, medium, and large size biotech companies; a description and history of the Massachusetts biotech community; and a glossary of biotech terms. The Directory also includes a database of over 120 Massachusetts educational institutions with comprehensive descriptions of areas of study in the life sciences.

2004

BioTeach, MassBioEd's flagship program, is established with a grant of \$1.4M from the U.S. Department of Labor. This ambitious initiative aims to provide all Massachusetts schools with supplies, equipment, and most important, teacher training, to increase science teachers' ability to offer authentic lab experiences to students, using current approaches and technology.

Harvard University's Extension School launches a master's in biotechnology program that includes MassBioEd's course in Biotech Project Management.

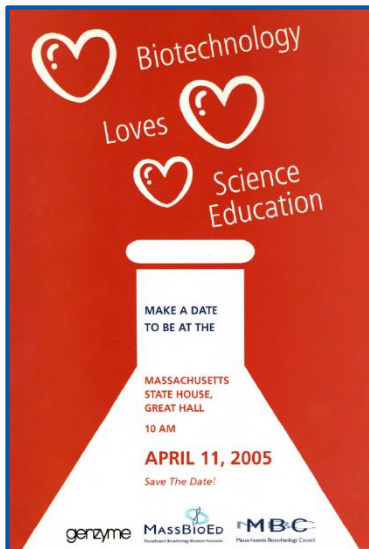


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2005



Genzyme Corporation becomes the first major corporate sponsor of BioTeach, pledging \$250,000 over five years to help public schools update and improve their science education programs and facilities. Serono pledges \$100,000 as a lead sponsor. Other early corporate sponsors include the Biogen Idec Foundation, Acambis, AstraZeneca R&D-Boston, EPIX Pharmaceuticals, MicroTest Laboratories, Novartis Institutes for BioMedical Research and Wyeth Pharmaceuticals.

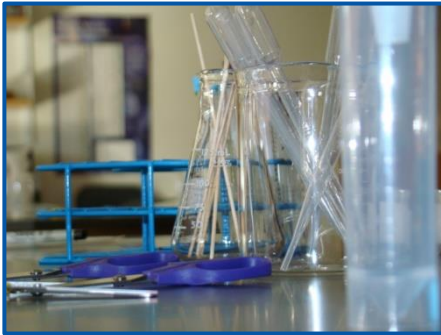
BioTeach's launch event at the State House brings together students, teachers, and political leaders to stress the need for helping public schools create outstanding life sciences education programs.

"BioTeach should be a model for the rest of the nation...It will make our kids competitive in the new millennium workforce and ensure that Massachusetts gets its share of the burgeoning biotech industry." - Keynote speaker, Senator Kennedy

2009

Following a billion-dollar initiative to support the life sciences industry under former Governor Deval Patrick, MassBioEd creates the Massachusetts Life Science Education Consortium (MLSEC) to facilitate partnerships between industry and academia and address skills gaps. The program is supported by a \$150,000 grant from the Boston Foundation in 2011 to further its development in meeting long-term hiring needs of the industry and improving the communication and partnerships with Massachusetts colleges and universities.





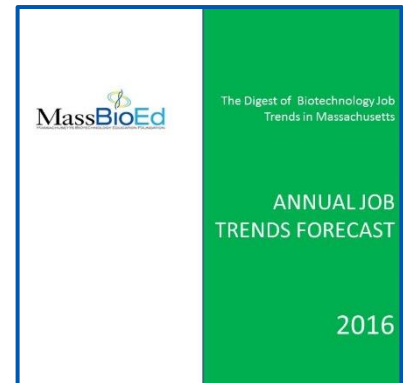
2014

MassBioEd forms a partnership with New England Biolabs to provide the molecular biology reagents required to implement BioTeach labs for teachers at no cost. This increases student access to current biotechnology tools and technologies. Through a partnership with the Massachusetts Life Sciences Center (MLSC), MassBioEd provides equipment and training to under-resourced public schools. MLSC's

support to date totals just under \$1M. In 2015, Thermo Fisher Scientific doubles their giving to include an annual \$25K in Fisher Scientific lab equipment and supplies, expanding MassBioEd's capacity to provide customized grant funding for schools to obtain equipment and consumables that support life sciences-related lab activities, supplemented with teacher mentoring from BioTeach Instructors.

2016

In response to calls for deeper dives into labor market information, MassBioEd conducts a comprehensive review of employment and hiring trends in the life sciences to better understand the needs of the industry and to help higher ed align their offerings to the life sciences jobs of the future. The inaugural Life Sciences Workforce Conference is held at Sanofi Genzyme and coincides with MassBioEd's first annual Job Trends Forecast, now known as the Life Sciences Employment Outlook.



2017

To bring career exploration experiences into the classroom, the Career Ambassador Program is launched, allowing students to meet and hear from industry volunteers about the variety of careers and pathways available in the life sciences. Additionally, the Take Out Training and Equipment (TOTE) Lending Program is established to allow schools that lack

equipment and reagents to bring biotechnology lab activities into the classroom.

2018

The ACCESS program provides curricula, equipment, training, and ongoing support to build a community among middle and high school science teachers, school administrators, and industry volunteers to provide authentic science lessons with embedded career connections in all middle school science and high schools in the district.

BioTeach
ACCESS Program
Supporting high-need school districts with multiple meaningful life sciences experiences for students across grades 6-12 to build from.

MassBioEd
Life Sciences Apprenticeships
Looking for dedicated workers interested in starting a career in life sciences. Apply now!
BioTalent
Email BioTalent@massbioed.org to learn more.

2020

MassBioEd builds the first ever Registered Apprenticeships in the life sciences and incorporates career exploration for students and adults, professional development training, labor market information, and the Annual Life Sciences Workforce Conference under "BioTalent".

2021

The Biomanufacturing Technician and Clinical Trial Associate Apprenticeship Programs in Massachusetts are launched, helping to grow the talent base for local companies while enabling individuals to obtain employment that provides meaningful work, family-sustaining wages, and career growth.

Celebrating 20 years of building a life sciences workforce!

THE PROGRAM

Biomanufacturing Technicians (BMTs)
BMTs help deliver life-changing biological products and therapies to patients.

Highly skilled technicians prepare materials necessary for cellular growth and production, purify therapeutic products, and monitor operations and document workflows.

Beyond basic foundational scientific knowledge, BMTs must exercise strong analytical and collaboration skills.

Biomanufacturing is dependent on multiple functional areas working together, offering BMTs an introduction to an array of subsequent career paths.

4-6 Month Classroom Training

- Fundamentals of biology, chemistry and math
- An overview of the science and business of drug development
- Training in communication, team management, and conflict resolution
- Introduction to GMP, supply chain logistics, compliance, and documentation
- Hands on laboratory training and practice

On-the-Job Training

- 12 months at a company as an employee at apprenticeship wages that increase stepwise over the training period
- Skills training in company specific product line and technical requirements

Professional and Peer Mentoring
Job Transition Support and Coaching

3 Month Classroom Training

- Training in clinical research, compliance, and regulations
- An overview of the science and business of drug development
- Soft skills training in communication, team management, and conflict resolution
- Entry-Level Knowledge Assessments

On-the-Job Training

- 12 months at a company as an employee at apprenticeship wages that increase stepwise over the training period
- Skill training in company specific clinical trials

Professional and Peer Mentoring
Job Transition Support and Coaching

Clinical Trial Associates (CTAs)

CTAs serve an essential function assisting with clinical trials of novel drugs, devices, and therapies.

Skilled CTAs understand basic biology and medical terminology and demonstrate fine attention to details, an ability to collaborate, and excellent communication and organizational skills.

CTAs are the first occupational step in clinical research. Here, they gain experience and grow their career in the many facets of the drug testing and approval process.