

THE INNOVATIVE BIOPHARMACEUTICAL INDUSTRY'S SUPPORT FOR STEM EDUCATION IN: **NEW YORK**



The Biopharmaceutical Industry's Sustained Commitment to Inspiring and Advancing Tomorrow's STEM Workforce

*A high-skilled technical workforce that is proficient in science, technology, engineering, and mathematics (STEM) is increasingly important to sustained economic growth and U.S. global competitiveness. However, as the U.S. continues to lag behind other countries in terms of STEM literacy and expertise, there are legitimate concerns in the nation's ability to produce enough qualified workers to meet the demands of the global knowledge-driven, STEM-intensive economy and to develop workers with the relevant skills needed for the jobs of the future. **Inspiring and developing the next generation of STEM talent is critical to the economic success of New York.***

STEM talent is especially important to the success of the nation's biopharmaceutical industry, one of the economy's most innovative sectors employing more than five times the level of STEM workers compared with the overall U.S. economy. **In New York, the biopharmaceutical industry directly employs 55,163 and has a total economic impact of more than 230,000 state jobs and \$67.1 billion in total economic output.**¹

New York will need to fill nearly 630,000 STEM jobs by 2028. However, an analysis of a series of STEM education indicators finds that New York students generally rank in the bottom half of states in terms of their proficiency in STEM.

To help inspire and develop the next generation of STEM workers, the innovative biopharmaceutical industry supports 3 programs in New York and 10 programs nationwide.

Number of STEM Programs Supported by the Biopharmaceutical Industry in New York²

3

Number of National STEM Programs Open to NY Students and Teachers

10

Projected STEM jobs to Fill in NY by 2028³

629,460

National Assessment of Educational Progress State Ranking for NY Students⁴

	4th Grade	8th Grade
Math	37	27
Science	37	34

Share of Graduating NY High School Students Interested in STEM Major or Career⁵ (U.S. = 48%)

49%

Biopharmaceutical Industry Economic Footprint in New York⁶

55,163
Direct Jobs

\$67.1 B
Total Output

Biopharmaceutical Industry-Supported STEM Education Programs in New York

The **Amgen Scholars Program**, which identifies promising science undergraduates from across the country and matches them with research scientists and laboratories at top-tier universities for a hands-on summer internship designed to fuel their passion for STEM.

Boehringer Ingelheim (BI), through the BI Cares Foundation, offers and sponsors programs that help build student interest in STEM:

- **STEM education programs**, which are designed to develop problem solving, critical thinking and invention among elementary and middle school students as they create inventions that help solve everyday problems. BI also presents “BI Cares Foundation Life Science Awards” to students at the statewide level in recognition of innovative ideas to improve patient lives.
- **Boehringer Ingelheim employees enthusiastically serve as volunteer judges and mentors for the annual Westchester Science and Engineering Fair and other science fairs.**

The **Genentech Foundation** offers financial support to students from across the country interested in STEM research:

- The **Summer Research Scholars** program selects promising students of color from universities around the country to participate in summer research programs at top-tier institutions nationwide.
- The Foundation’s **Fellowship Program** supports undergraduate, graduate, and postdoctoral students that are pursuing research in basic science at top-tier universities nationally.

The **GlaxoSmithKline Science in the Summer program** provides high-quality STEM experiences to students who would otherwise lack access, especially during summer breaks when school is out of session. In New York, the program is offered in partnership with the Museum of Innovation and Science (miSci) in Schenectady.

Industry-Supported STEM Education Programs Nationwide

With an emphasis on student engagement, teacher development, and dynamic learning opportunities, PhRMA members **Amgen, AstraZeneca, Bayer, Genentech, and Johnson & Johnson** also support 10 STEM education programs nationwide. Read more about these programs [here](#).

- 1 *The Economic Impact of the U.S. Biopharmaceutical Industry: 2017 National and State Estimates, PhRMA and TEconomy Partners, December 2019.*
- 2 *PhRMA-TEconomy “The Biopharmaceutical Industry’s Sustained Commitment to Inspiring and Advancing Tomorrow’s STEM Workforce” 2020.*
- 3 *TEconomy’s Analysis of Projections Managing Partnership Occupational Employment Projections for 2018-2028. Projections data reflect the 2016-26 period for the following states: AL, AZ, CT, KS, KY, MA, NM, OK, TX, VT, WA, WV.*
- 4 *U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2019 Mathematics Assessment and 2015 Science Assessment.*
- 5 *Percentage of ACT-Tested High School Graduates Scoring Expressing Interest in STEM Majors, Occupations, and/or Activities; ACT: The Condition of STEM 2017 State Profiles.*
- 6 *The Economic Impact of the U.S. Biopharmaceutical Industry: 2017 National and State Estimates, PhRMA and TEconomy Partners, December 2019.*