



Pioneering science delivers vital medicines™

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# Amgen's Commitment to Inspiring the Next Generation of Scientists

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*President*  
Amgen Foundation

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# A Long-Standing Commitment to Advancing STEM Education in the United States and Abroad



- World's largest independent biotechnology company
- Approximately 20,000 employees
- In over 75 countries
- Reaching millions of patients

Through the Amgen Foundation—Amgen's primary philanthropic vehicle—we emphasize and deliver a suite of world-class **STEM education** initiatives that demonstrate Amgen's commitment to science and society

- Tie meaningful initiatives to company identity and core competencies
- Emphasize solicited, long-term signature initiatives with a measureable impact
- Focus on inspiring the next generation of scientists and strengthening scientific literacy

## Two Major Strategies in Science Education

Supporting Teacher Quality

Pivotal, Hands-On Science Experiences

To date, Amgen and the Amgen Foundation have committed over \$80 million to nonprofit organizations in the U.S. and abroad to advance STEM education.

# Select Amgen Investments in Pre-College STEM Education

## Amgen Biotech Experience



Effectively brings biotechnology to high schools in Amgen communities in the U.S., U.K., and Ireland

Starting with one high school in 1990, the program today reaches over 60,000 students annually with engaging labs

Strong teacher professional development and support is a hallmark of the program

## Nat'l Board for Professional Teaching Standards



Strengthening science instruction and student achievement in Amgen communities

Creates a cadre of National Board Certified Teachers in science in Amgen communities to improve student performance

Developed online courses using performance data to improve science teaching nationwide

## National Academy Foundation



Network of career-themed academies for underserved high school students

Course developed on the Principles of Biotechnology, part of the new Academy of Health Sciences

Plans underway to develop additional courses on industry as well as specific sectors of the industry

## 100Kin10 STEM Initiative



A multi-sector network that responds to the national imperative to train 100,000 excellent science, technology, engineering, and math (STEM) teachers by 2021

Aims to increase the quantity and quality of STEM teachers

Ensures that all students have access to first-rate STEM teaching and learning

# Amgen Biotech Experience

## Scientific Discovery for the Classroom

- Developed through a special collaboration between Amgen scientists and educators, the first labs were used in 1990 at a local high school next to Amgen's global headquarters
- This uniquely Amgen program opens students' eyes to the world of biotechnology, bringing professional-grade lab equipment and the 'wow' factor to biology classrooms
- Nearly \$9 million invested to date has allowed the program to reach **360,000+ students** across Amgen regions, including 60,000 students the past year alone

[www.amgenbiotechexperience.com](http://www.amgenbiotechexperience.com)

***“The Amgen program is modern, current, and cutting edge. Micropipettes, gel electrophoresis – students love it. This program is incredibly powerful.”***

Mary Simun, Biology Teacher  
Redondo Union High School, California



### Current Program Regions

- |                       |                    |
|-----------------------|--------------------|
| ✓ Southern California | ✓ Rhode Island     |
| ✓ Northern California | ✓ Washington, D.C. |
| ✓ Colorado            | ✓ Washington       |
| ✓ Massachusetts       | ✓ England          |
| ✓ Puerto Rico         | ✓ Ireland          |



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# Effective Biomedical Lab Experiences Bring Relevancy, Rigor, and Genuine Engagement to High School Classrooms

## Value of the Amgen Biotech Experience

- Provides real-world concepts and work experiences of the biomedical industry
- Promotes student interest in biomedical career possibilities
- Leads to more science course-taking in high school and college
- Strongly addresses hands-on “science and engineering practices” required by NGSS\*



## Strong, Experienced Partners

- Partner organizations bring premier national expertise in science education
- **EDC** leads Program Office; **WestEd** increasing formal evidence of effectiveness
- Regional partners include Harvard, UC Berkeley, community colleges, and others

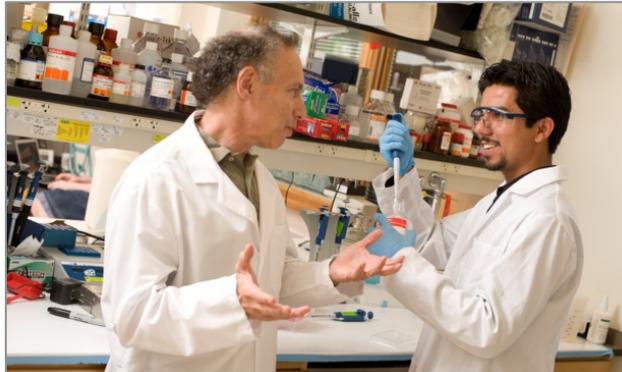
## Biomedical Science in High Schools

- Students from all backgrounds can be engaged in solving problems and careers related to helping others
- Thus biomedical sciences has every potential to be a career field that attracts students and helps them to persist in STEM education and careers
- ABE provides an experience that fills a void between many core curricular programs and the need for experiences that demonstrate the applicability of that content to students, and engages them in developing relevant skills
- Student engagement and understanding of the application of content is more likely to lead to further course-taking and retention in STEM programs; thus, **engagement** and **career awareness** is key to building the pipeline in STEM fields

\*Next Generation Science Standards

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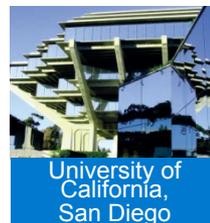
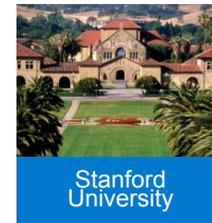
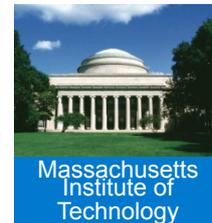
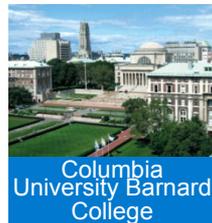
# Amgen Scholars Continues to Launch Hundreds of Undergraduates on the Path to a Scientific Career



## Access to Incredible Opportunities

*Jose Rios of Arizona State University, one of over 2,400 Amgen Scholars to date, spent the summer under MIT Institute Professor Bob Langer, named by Forbes as one of the 25 most important individuals in biotech in the world. Jose was the first in his family to attend college, and is now in graduate school in biomedical engineering at Cornell.*

- Now in its 8<sup>th</sup> year, this premier summer research program at top universities is open to undergraduates across the U.S. and Europe
- Made possible by a \$34 million, eight-year commitment, ensuring that all students are able to participate regardless of their financial status
- Unique U.S. and European Symposiums highlight medical biotechnology and engage Amgen executives and staff
- An all-time high of 4,200 students from over 800 colleges and universities applied for this year's 325 slots
- Robust, independent evaluation in place since program launch allows for data-based decision-making, continuous improvement, and ability to track impact over time



# Amgen Scholar Alumni are Pursuing Advanced Scientific Degrees and Careers in Large Numbers

## PROGRAM ALUMNI

# 1,096

Current Status of Alumni

Who Have Completed Undergraduate Degree\*

# 552

Graduate School in Science (Masters and PhDs) \*\*

## 67

MD/PhD  
Programs

## 139

Science-Based  
Career

## 176

Professional School in  
Science (MD, Other)

## 162

Non-Science Grad School  
or Career / Unknown

\* Status as of February 2013. Note that 711 of the 1807 alumni are still pursuing their undergraduate degree and have not been included in the chart.

\*\*This number includes the 20 alumni who are currently pursuing specialty science programs, or post-bacc fellowships.

## ALUMNI PROFILE

Scholar Name

*Seychelle Vos*

Undergraduate Institution

*University of Georgia*

Amgen Scholars Program

*University of California, Berkeley (2007)*

*Seychelle's experience as an Amgen Scholar inspired her to return to UC Berkeley for graduate school, where she's just completed her PhD.*



Seychelle Vos, Ph.D.  
2007 Amgen Scholar