STEM at AstraZeneca: 2020
Employees of Learning Undefeated™ provided at-home science kits to students during the pandemic in 2020.
## Contents

**Making an Impact: STEM at AstraZeneca** ................................................................. 4

**Powering the Next Generation of Scientists: Our Impact in Action** ................. 5

**Our Signature Initiatives** ...................................................................................... 6

- **Generation Health: How Science Powers Us** .................................................. 6
- **United Kingdom STEM Program** ..................................................................... 6
- **‘Ask a Scientist’ Video Series** ......................................................................... 7
- **Sweden STEM Program** .................................................................................... 7

**Our STEMbassadors** ............................................................................................ 8

- **Virtual STEM Festivals** .................................................................................... 8
- **STEM Mentorship** .......................................................................................... 9
Making an Impact: STEM at AstraZeneca

At AstraZeneca, we have always been passionate about inspiring the next generation of scientists. We strongly believe that future advances in STEM (science, technology, engineering and mathematics) will help shape our world in ways that we cannot currently imagine, and will be crucial in driving advancements in the treatment and prevention of diseases.

Empowering the next generation of scientific leaders is critical. Published reviews cite that by eighth grade, nearly 50% of US students have lost interest or see STEM as irrelevant to their future - threatening the pipeline of tomorrow.

To properly enable the next generation of innovators, AstraZeneca remains committed to inspiring and supporting the development of young scientists, engineers and healthcare professionals through numerous national and global STEM educational initiatives.

Due to the COVID-19 pandemic, 2020 proved to be a year like no other. Science was at the forefront of the global stage, and the need for accessible scientific information became more clear than ever. The pandemic also highlighted gaps in STEM education that could no longer be ignored, especially among young women and minorities.

Despite the challenges, 2020 afforded us an opportunity to reimagine the rules of what STEM education could look like. Our focus became making science more equitable, accessible and fun for everyone. The following report reflects just some of our STEM-focused accomplishments in 2020, highlighting the power of STEM programming at AstraZeneca.

—Sir Mene Pangalos, Executive Vice-President and President, BioPharmaceuticals R&D, AstraZeneca

“Through our STEM programmes, we aim to inspire the next generation of science leaders to help young people understand the wide range of opportunities across STEM and empower them to achieve all they want. To do this, we are focused on making science real, showing students how the topics they are learning about in the classroom translate in the real world, and in the development of life-changing medicines.”

Powering the Next Generation of Scientists: Our Impact in Action

October 2019 – November 2020

In 2020, AstraZeneca was able to reach more than 1.25 million students and educators with engaging and accessible STEM education, and increased the number of volunteers and ambassadors from our company to make a difference in STEM learning around the world.

Our commitment to inspiring and supporting the development of the next generation of scientists, engineers and healthcare professionals can be summarized as follows:

Our Signature Initiatives

1 million

Generation Health Partnership: In just one year, the program provided STEM education opportunities to more than 1 million students worldwide

375,000 views

'Ask a Scientist' Video Series: A Gold AVA Digital Award-winning video series generated 375,000 views (benchmark <1K) and more than 600 engagements with our social media posts

Our STEMbassadors

143,000 students

Virtual STEM Events: More than 143,000 students and educators benefited from remote learning during three virtual STEM events featuring our leaders

198 in 2020

Mentorship: From classroom takeovers to YouTube and media appearances, our employees made science more relatable through a variety of channels and the number of STEMbassadors grew to 198 in 2020

Our Global Reach

United States

STEM At Home: Through local efforts, we highlighted career opportunities for students and donated supplies to schools in need

United Kingdom

STEM UK: AstraZeneca had over 110 registered STEM Ambassadors in the UK in 2020 working in partnership with local organisations and schools to deliver virtual programmes

Sweden

STEM Sweden: In 2020, 21 grade 9 students received individual STEM career mentoring from AstraZeneca and partners
Our Signature Initiatives

Generation Health: How Science Powers Us

Launched in October 2019, the US-focused Generation Health: How Science Powers Us program was developed in partnership with Learning Undefeated™ and Discovery Education™ with the mutual goals of inspiring the next generation about science. Through the program, we aim to make science accessible and relatable for every student by providing hands-on, standards-aligned STEM learning activities. Students ages 11-13 investigate both preventative measures and innovative solutions to key health concerns in the areas of oncology, cardiovascular and respiratory disease. To date, more than 1 million students have engaged with Generation Health content.

“Students are connecting lessons from Generation Health into their everyday lives by developing more awareness of health concerns and being more understanding of family members with illness.”
—Educator participant in Generation Health

Virtual Field Trips: A 30-minute virtual event transported students behind-the-scenes at the labs on AstraZeneca’s Gaithersburg campus. The virtual lab tour reached more than 1,100 classrooms and almost 50,000 students across the US. More than 70% of educators responded that their students were more knowledgeable about the process of making medicines after participating in the virtual field trip.

Drop Anywhere Labs™: An immersive mobile STEM learning space for middle school children provided hands-on learning to introduce students to STEM careers, and flexible in-classroom resources that empowered teachers. Since its launch, the program has served more than 4,000 students from more than 175 classrooms. At least 75% of programming was directed to schools with a high percentage of economically disadvantaged children.

“It was more fun than learning from a book because it was visual. When you have hands-on learning, it’s way more fun than learning from a paper!”
—Aiyana, 8th grade science student, Houston, TX

STEM at Home: At a time when K-12 education continues to be disrupted around the world, the Generation Health: How Science Powers Us website served as a steadfast and turnkey resource for teachers and parents alike in their search to support at home, STEM-based learning. In 2020, there were 50,000 website visitors — with 19,000 in April alone — and 55,000 content views. Referral visits reached 20,000 including a 3,759% year-over-year increase from Google Classroom. We have also developed new e-learning modules for infectious diseases and at-home science kits that aim to educate and inspire today’s students to be champions of science and health literacy.

United Kingdom STEM Programme

Our UK-based STEM Outreach programme aims to support grassroots activities in local schools. In Cambridge, and around our sites in Macclesfield and Speke, we are partnering with many organisations, as well as shaping and delivering science activities and programs to local schools and colleges. Organisations include the Cambridge Science Centre, Cambridge United Community Trust through the Active Science programme and STEM Learning with the UK STEM ambassador hubs and Enthuse Partnerships. In addition to working directly with schools and local organisations, the outreach program focuses on attending public events to reach a wider population. Previous highlights include the University of Cambridge Science Festival, which has a reach of more than 25,000 people annually. This provides the opportunity for our STEMbassadors and volunteers to lead hands-on science activities with the audience, as well as speaker opportunities and meet-the-scientist sessions. Our STEM outreach teams also regularly participate in the Big Bang North West show, which hundreds of schools attend each year. Our focus is on bringing science to life and showing how the science topics the young people are learning in the classroom translate into the workplace. Throughout 2020 we achieved this through virtual events, including the virtual Active Science week and school virtual 'Meet the Scientist' sessions.
‘Ask a Scientist’ Video Series

When the COVID-19 pandemic emerged in early 2020, scientists and students alike were suddenly faced with limited access to labs and classrooms, threatening to widen the gap in STEM education when it mattered more than ever. As parents scrambled to become interim teachers, AstraZeneca harnessed the opportunity to rethink STEM education for this ‘new normal’ by creating a suite of fun and engaging videos to make biomedical research accessible to everyone.

Launched during the height of the stay-at-home orders, a Gold AVA Digital Award-winning ‘Ask a Scientist’ video series challenged our scientists to explain complicated concepts, such as antibody drug conjugates, to children, proving that even the most complex science can be relatable. The series filled a void for parents and professionals, creating a new tool to support online learning and showcase groundbreaking science for better health literacy. The series had a benchmark-busting impact with 375,000 video views across media channels (benchmark <1K). The scientists who shared on social media saw high engagement with a diverse group of individuals commenting on the posts.

Beyond the numbers, we’re proud of creating a model to make science accessible for all. Our results demonstrated that the videos were equally popular with those seeking STEM education content and those searching for more technical scientific concepts.

Check out the full video series on YouTube.

375,000 views

With more than 375,000 (and counting) children, parents, teachers and scientists reached, the strong interest in ‘Ask a Scientist’ proved that AstraZeneca’s inclusive approach to science education is here to stay, amplifying the ripple effect taking place across the healthcare industry to make science more equitable and accessible for all.

Sweden STEM Program

Each year, AstraZeneca in Sweden invests time and funds to support community initiatives that focus on attracting young people to science, research and technology. Moreover, by creating and encouraging opportunities for our own employees to give back through volunteering, we support our goal to be a Great Place to Work. This year, in collaboration with Young Researchers (Unga Forskare) and Mentor Sweden, AstraZeneca supported high school students with school visits and individual mentoring. Twenty-one students from grade 9 made up the second group of students who received individualized mentoring to encourage pursuing the study of natural sciences, possibly becoming our future colleagues.

“I can hardly wait until the next meeting… This is magical!”

—STEM student participant, Sweden

“Science was the only subject I was excited and eager about every day. Whenever I envisioned my future career, I could not see it without science. When you discover your true passion, you want to be involved with it indefinitely.”

—Leila Bucary, Global Study Manager, Oncology, AstraZeneca

STEM volunteer spotlight

“I can hardly wait until the next meeting… This is magical!”

—STEM student participant, Sweden

“Science was the only subject I was excited and eager about every day. Whenever I envisioned my future career, I could not see it without science. When you discover your true passion, you want to be involved with it indefinitely.”

—Leila Bucary, Global Study Manager, Oncology, AstraZeneca
Our STEMbassadors

As a global company, AstraZeneca leverages its reach and scientific expertise to support positive change in our local communities. Our employees regularly volunteer in support of our STEM initiatives by lending their knowledge at STEM festivals and events, and through mentorship. After all, who better than our own employees to share the infectious joy of science with students?

Our number of STEMbassadors worldwide increased in 2020 to nearly 200 between our three R&D hubs (Cambridge, UK; Gothenburg, SE; and Gaithersburg, US).

“I’ve learned so much about STEM because of [USA Science & Engineering Festival’s] SciFest! It greatly broadened my knowledge about career options and showed many new and incredibly useful applications of STEM. It also introduced great resources that I can use in the future! I’ve learned a lot!”
— Student SciFest attendee

A few highlights from our STEMbassadors in action during 2020 include:

Virtual STEM Festivals
Students from under-funded schools in low-income areas are less likely to experience hands-on science activities and often lack access to equipment needed for STEM learning programs. This drop-off is most visible in girls and minority groups.2

AstraZeneca is leading the charge to change this by sponsoring the USA Science & Engineering Festival’s virtual STEM events, including X-STEM, SciFest All Access and the Inspire Educators Workshop. All sessions and booths were free to participants globally and included ready-to-download teacher/parent worksheets, making it easy for students to incorporate the sessions into their distance learning activities. There were a variety of topics to choose from and students were encouraged to explore on their own time.

“SciFest 2020] was amazing. It provided students from year one through college with a wide variety of topics to explore. It created a sense of wonder and curiosity that really engaged all students. Even those students who were quite advanced found their curiosity ramped up. They can’t stop talking about it.”

—Educator, USASEF attendee

Girls in STEM Booth

AstraZeneca participated in the USA Science & Engineering Festival’s virtual SciFest All Access, the largest and only national science festival for STEM. We saw overwhelming engagement with our Girls in STEM booth, where our STEMbassadors Ann Taylor, Renee Iacona and Mika Sovak designed and presented age-appropriate and DIY at-home experiments. These included a moldy bread experiment and extracting DNA from strawberries to make science more accessible to the next generation of scientists.

STEM Mentorship

A known barrier to students succeeding in STEM fields is the lack of visible, relatable role models. To connect directly with youth, our scientists appeared on Let’s Talk STEM, a talk-show style YouTube program designed to introduce students to STEM professionals. Our work also provided a platform for our leaders to speak about the importance of women in STEM, resulting in significant media coverage in In Vivo, Authority Magazine, Pharmaceutical Executive, The Medicine Maker and Drug Target Review/European Pharmaceutical Review.

“STEM knowledge goes beyond a career. It’s knowledge for life. Building student skills, content knowledge and fluency in STEM, no matter where they live, is so essential in developing the next generation of creative and innovative leaders.”

—Justin Cox, Science Engagement Manager, AstraZeneca

Hear from a few of our many STEMbassadors on why STEM education is crucial to inspire the leaders of tomorrow in this video.

Key metrics

>143,000 STEM enthusiasts
Registered to attend virtual events we sponsored.

>67,000 households

X-STEM: More than 67,000 students and educators from around the world in grades six through 12 heard from an exclusive group of visionaries about careers in STEM, including our own Mika Sovak, Vice President and Franchise Head, R&D (ENHERTU). In a post-event survey, more than 82% of attendees responded that the event was an effective way to get students more interested in STEM.

>5.25 million impressions

SciFest: More than 75,000 students, teachers, parents, military families and STEM enthusiasts registered for the event sponsored by AstraZeneca, representing all 50 states in the US and 99 countries. During the event, a social media campaign called “Show Us How You STEM” launched, resulting in more than 5.25 million impressions.

>1,300 educators

Inspire Educators Workshop: More than 1,300 global and US-based educators registered for a workshop in partnership with Learning Undefeated™. More than 42% of the US public school educators were from Title 1 schools with a high percentage of economically disadvantaged children.

“[SciFest 2020] was amazing. It provided students from year one through college with a wide variety of topics to explore. It created a sense of wonder and curiosity that really engaged all students. Even those students who were quite advanced found their curiosity ramped up. They can’t stop talking about it.”

—Educator, USASEF attendee

"The creativity of our youth is fundamental to the future of innovation."

In Memoriam
José Baselga
A dedicated oncology leader and researcher, mentor to young scientists, proponent of STEM education, friend and father.

"It's important to continue to stay curious, and keep asking questions, and keep doing experiments."

"Nurturing and inspiring the young innovators of tomorrow is vital for progress. We must also make sure science is accessible to diverse minds; the challenges of tomorrow are significant and we need to think differently to make the biggest impact."