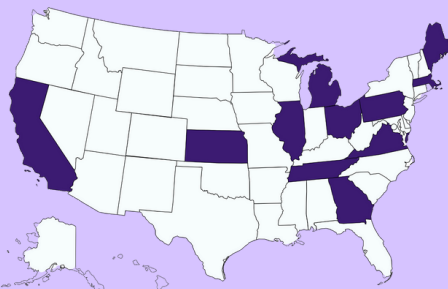


Empowering the next generation to address global challenges with bioscience.

The BioBuilderClub engages high school students around the world who combine engineering principles and biotechnology techniques to design, build, and test their own project ideas using synthetic biology. Within biodesign teams, budding scientists worked at their schools from October to March to develop meaningful projects that address real-world challenges.

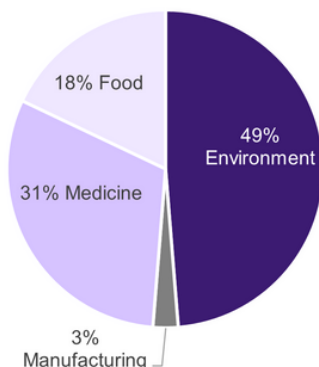
- 285 Students
- 174 Hours of Mentorship
- 47 Teams
- 39 Lightning Talks



11 US States and 4 Countries

Project topics included:

- Degrading microplastics
- Preventing coral bleaching
- Increasing the nutritional content of food crops
- Engineering gut microbes to reduce gastrointestinal symptoms or increase neurotransmitter production
- Monitoring water quality and safety
- Making heat stable fluorescent proteins
- Developing biosensors to detect chemicals and health conditions ranging from infections to brain tumors
- Protecting crops from pests and disease
- Introducing infertility to tick populations
- Testing novel tooth decay preventatives



DATA SNAPSHOT

Demographics

58% Female
44% First generation raised in US

% of students confident in STEM skills after participation

- Understanding scientific information online: 83%
- Giving evidence for my scientific opinions: 75%
- Coming up with new ways to solve technical problems in science: 60%
- Developing own science investigations: 63%

% of students experienced in STEM skills after participation

- Working on student-designed projects: 64%
- Becoming responsible for a part of a project: 89%
- Reading primary scientific literature: 83%
- Collecting (76%) and analyzing (80%) data
- Presenting scientific ideas orally (60%) and in writing (64%)

BioBuilderClub students on college and careers:

Strongly Disagree Disagree Neutral Agree Strongly Agree

I would recommend a class that has BioBuilder content over one that doesn't.

1% 40% 46%

BioBuilder has supported my interest in pursuing advanced scientific coursework.

2% 36% 50%

BioBuilder has supported my interest in pursuing a career in the life sciences.

3% 4% 29% 49%

DOWNLOAD ABSTRACT BOOK



Read the virtual Abstract Book and learn more about each team's project.

VIRTUAL POSTER GALLERY



Scan this link to see the posters in our Google Photos gallery.

BIOBUILDERCLUB STUDENT FEEDBACK:

"I enjoyed working with my peers on research that has the potential to make a real world impact."

"I enjoyed designing an experiment where no one would know the final outcome."

"I enjoyed learning how to present my team's poster and ideas in a clear way. This allowed me to improve my public speaking skills."

"I WAS SO STARSTRUCK AT THE OTHER GROUPS' POSTERS!!!"

"It was truly a joy being able to explore the field that was completely foreign to me when I entered high school. After four years in the club and two years actually attending the assembly, I can confidently say I've learned so much."

"I enjoyed that [at the Final Assembly] we could walk around and hear people from all over the country (and world) talk about what they are passionate about."

SEASON HIGHLIGHTS

K2 Scientific
generously donated 4 cold storage units to schools

- | | |
|--|------------------------------|
| 1. Cross Keys High School | 3. Castro Valley High School |
| 2. Oak Park and River Forest High School | 4. Western Reserve Academy |

Luminary Lecture
given by Dr. Roger Palframan, Head of U.S. Research at UCB

Dr. Palframan provided insight into his educational and career journey. Students had the opportunity to ask an industry leader their questions about the future of biotech.

Final Assembly
at MIT Welcome Center on 3.14.24

This year's Final Assembly was held at MIT on Pi Day with over 200 in-person and virtual attendees. Students gave one-minute Lightning Talks followed by two poster sessions and, of course, pie.



Cross Keys High School (Atlanta, GA) Team



Dobyns-Bennett High School (Kingsport, TN) Team



International School of Boston (Boston, MA) Team



Shrewsbury High School (Shrewsbury, MA) Team



Montrose School (Medfield, MA) Team

BioBuilder gratefully acknowledges our partners for their support of the BioBuilderClub. Together we're growing the future through life science education.

