Building with Biology

Teams at the International Genetically Engineered Machine (iGEM) 2014 synthetic biology competition.

Synthetic biology is interconnected with society

Synthetic biology generates new tools and knowledge, which may help solve problems in areas such as food security, healthcare, energy, and the environment.

Synthetic biology benefits from many voices. People from different fields, including art, science, engineering, public policy, and political science all need to participate. This work can take place in universities, companies, and community DIY (do-it-yourself) labs. The participation of diverse communities fosters the creativity and growth of the field.

This emerging field of research also raises important questions about how and why we use new science and technology in our lives. Our values, as individuals and as a society, help determine which technologies are developed and used. Public input can shape the future of synthetic biology.

This poster was created as a collaboration of the Multi-Site Public Engagement with Science—Synthetic Biology project. This project was supported by the National Science Foundation under Award Number 1421179. Any opinions, findings, and conclusions or recommendations expressed in this program are those of the authors and do not necessarily reflect the views of the Foundation.

Building with Biology

Cody Pickens

Synthetic biologists solve problems by applying engineering principles to biology

Scientists and engineers in this emerging field of research redesign existing organisms and make new ones. Using tools from genetics and biology, researchers can mix and match pieces of DNA to make modified or new living systems. They design, build, and test these new systems in an iterative cycle.

Synthetic biologists are developing a library of standard biological parts. These genetic parts act like instructions that can be put together in different combinations to do and make new things.

This poster was created as a collaboration of the Multi-Site Public Engagement with Science—Synthetic Biology project. This project was supported by the National Science Foundation under Award Number 1421179. Any opinions, findings, and conclusions or recommendations expressed in this program are those of the authors and do not necessarily reflect the views of the Foundation.