

Event Planning and Marketing Guide



Credits and Rights



Activities and Conversations about Synthetic Biology



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Introduction

Welcome to the Building with Biology project! We have developed this guide to help you create conversations in museums among scientists and public audiences about the emerging field of synthetic biology and its societal implications.

This project has been developed in conjunction with the National Informal STEM Education Network (NISE Net), and is comprised of informal science educators, researchers, and scientists dedicated to developing innovative resources, practices, and processes. Through this project, we hope to build the capacity of informal science educators and scientists to engage the public in multidirectional conversations and learning by providing opportunities for dialogue among and between the public and the scientific community.

Project Purpose

The aim of the Building with Biology project is to create conversations in museums among scientists and public audiences about the emerging field of synthetic biology and its societal implications. The Building with Biology events and materials have been designed to stimulate these interactions, and focus not only on what synthetic biology is and how research in the field is carried out, but also on the potential products, outcomes, and implications of this work for society. Scientists and public participants will explore personal and societal values and priorities, as well as desired outcomes, so that both groups can learn from each other. This public engagement with science (PES) model emphasizes multidirectional learning, rather than a one-way transmission of knowledge from experts to the public.

What is Synthetic Biology?

Synthetic biology is an area of scientific research focused on the possibility of redesigning and constructing entirely new biological systems. Synthetic biology uses new techniques combining biology and engineering to make new or modified living things and materials. This emerging field builds on the science of agricultural breeding and genetic engineering to create new things faster and cheaper in even more controlled and specific ways. The field is exploring the ways biology-based products might provide solutions to a wide range of problems in health, energy, and the environment.

Building with Biology Kit

The Building with Biology kit materials have been designed to encourage conversation and to promote informal learning interactions among diverse audiences, and therefore appeal to visitors with a wide range of backgrounds and learning styles. The activities are meant to be facilitated by scientists, so the kit materials will also provide opportunities for scientists from different fields to make and consider connections to their own work.

Two hundred sites nationwide received a physical Building with Biology kit in early summer 2016. These sites are required to host an event during the summer of 2016. The physical kits include hands-on activities, forum resources, and professional development and collaboration materials. All of these resources are also available digitally, and can be downloaded from www.buildingwithbiology.org.

The hands-on activities are designed for family audiences, and work particularly well for ages eight and up. Some activities focus more on the science and applications of synthetic biology, while others focus more squarely on the societal implications of this emerging field. These activity experiences typically last fewer than 15 minutes, they are adaptable, and they are meant to be facilitated by scientists or

The forum resources, on the other hand, provide an opportunity for a more in-depth discussion, which lasts roughly an hour and a half. These conversations are targeted at older audiences (16 years and older), and they are most successful as separate events marketed to adults in a quiet space. The forums are adaptable and are intended for scientists to participate alongside members of the public, facilitated by educators, to promote conversations around the societal implications of synthetic biology. Additional forum style programs can be found online at www.buildingwithbiology.org.

Hosting a Building with Biology Event

Building with Biology events will look very different from one institution to the next because these events reflect the capacity, needs, and resources in each local community. However, there are a few things that each Building with Biology event will have in common:

Museum-Scientist Collaborations

Beyond allowing museums to engage their audiences in the definition of synthetic biology, a key piece of this project is to facilitate conversations between scientists and the public about how synthetic biology might affect our society. Therefore, museums receiving physical kits are required to collaborate with local scientists, science students, or members of the synthetic biology field or other related fields. See the Finding a Scientist in Your Area section for tips on finding volunteer scientists, or ask your regional hub leader to assist in finding local collaborators. Similarly, scientists receiving physical kits are required to host public events at a local museum, library, or other local community venue; regional hub leaders can also help provide suggestions for finding a local partner. The contact information for your regional hub leader can be found in the Regional Hub Leaders section of this guide.

Orientation and Training

Event hosts receiving physical kits are required to hold an orientation session or provide training for their scientists and informal science education event volunteers. The Building with Biology kits include training and orientation materials to help prepare your event volunteers and staff for conversations with the public about synthetic biology. These training resources, along with additional training materials developed by the American Association for the Advancement of Science (AAAS), can also be found online at www.buildingwithbiology.org.

Reporting

Physical kit recipients must complete a short online report describing their experiences with the kit. Event hosts will be provided with a link to the online report, and should submit their report within three weeks of holding their event. In addition to questions about the event itself, you will be asked to provide the email addresses of event volunteers who are 18 years and older, and who are willing to participate in a post-event volunteer survey. Institutions holding events that did not receive a physical kit are not required to submit a report.

Evaluation

Because the multidirectional public engagement with science learning model may be new to many institutions, we want to be sure to understand the impacts of the Building with Biology events on all involved. Therefore, all event hosts receiving a physical kit will be invited to participate in the summative evaluation through pre- and post-event surveys. These optional surveys are in addition to the required post-event report, and we would greatly appreciate your participation.

Planning Timeline

One to three months before your event

- Museums will want to find a scientist in your area. For tips on finding a local scientist, see the Finding a Scientist in Your Area section in this guide.
- Scientists will want to find a local public venue in your area such as a museum, library, or other community location.
- Schedule a kickoff meeting to organize your event. Include both museum staff and collaborating scientists (and possible other community partners). Topics for the agenda include:
 - What are your goals for holding a Building with Biology event?
 - Who is your target audience?
 - What kinds of events and activities would reach this audience and meet your goals?
 - Who will lead the planning of the event? Who else will be involved?
 - How will you communicate with your collaborators?
 - What dates will you hold your event?
 - Do you need funding to support the event? If so, where will it come from?
- Choose a date and add your event to your institutional calendars.
- Become familiar with the materials in the Building with Biology kit.
- Plan your event. Your planning process might include creating:
 - A brief description of the event (type of activities, dates, times, location)
 - A budget (and local fund-raising plan, if necessary)
 - An outline of the event goals (and a plan for evaluating how well the event meets the goals)
 - A list of tasks and note of who is responsible for each task
 - A schedule with the major milestones for preparation
 - A marketing strategy
- Begin promoting your event. Coordinate efforts among your own institution's marketing and promotional staff, as well as your collaborator's staff.
- Recruit volunteers for your event.
- Choose a date and location for your training and orientation session(s) for staff, volunteers, and collaborators, and invite appropriate people. You may want to hold a training session about a week in advance and offer another session immediately before your event for volunteers who may attend that day.
- Let volunteers and collaborators know about training materials available in advance, such as: online activity training videos, forum training videos, and online public engagement opportunities.

At least one month before your event

- Review your plans with your facility manager and/or health and safety officer. Many facilities have guidelines or restrictions that could affect the logistics of your event or the demonstrations and activities you can include. You might ask about:
 - Restrictions related to use of water, open flames, chemicals, or hanging or suspended objects
 - Parking for visitors
 - Cleaning and sanitation service schedules
 - Security needs
- Ensure you have adequate staff and volunteers for your event.
- Continue to promote both the in-person and online training opportunities for your event scientists, staff, and volunteers.
- Draft an activity floor plan. Keep in mind that some activities need water, some can be messy, and some are better with a place for visitors to sit down.

A few weeks before your event

- Continue to promote your event.
- Consider creating signs or handouts listing the activities you're offering, as well as their times and locations.
- Create additional tabletop signs for activities that you may offer in addition to the activities contained in the kit.
- Do a test run of the activities.
- Prepare training and orientation session(s) for staff, volunteers, and scientists to take place in advance or on the day of the event.
- Make final preparations for your event (staffing, supplies, floor plan, schedule, and evaluation).

The week of your event

- Hold orientation/training sessions for staff, volunteers, and scientists in advance or on the day of the event. In addition to using the Building with Biology training materials, be sure to talk with your group about your particular venue, event schedule, audience, and expectations. Remember to collect volunteer email addresses.
- Hold your Building with Biology event!
 - Please look ahead to the Evaluating Your Event section so that you are keeping track of the names and email addresses of volunteers, and also the number of people who attend your event.

After your Building with Biology event

- Debrief on your event with your planning team. Identify elements of your event that were successful, as well as things you might want to change next time.
- Fill out your online Building with Biology event report form. Reports are due within three weeks of your event.
 - **Some things we will ask in the online report form include:**
 - **Facilitator Names and Emails:** Use the Facilitator Email Signup sheet in your kit to collect names and email addresses from volunteers over the age of 18 who attend your Building with Biology orientation and/or facilitate a hands-on activity. The report will ask you to provide this information so evaluators can send the volunteers an online feedback survey. At your orientation, alert volunteers that they will be invited to complete this optional survey.
 - **Estimated Number of Passports Distributed (if applicable):** If you use the Building with Biology passports, tell us how many passports you passed out and how long it took to distribute them. This information will help us estimate your attendance.
 - **Estimated Attendance at Event:** Tell us the total estimated number of people in your building or space on the date of your event, and provide an estimate of the percent of people out of that total who visited your Building with Biology event.
- Document your event for your future use. Save copies of programs, posters, and any newspaper or media coverage of your event.
- Thank your collaborators, sponsors, and volunteers.
- Discuss future plans with collaborators and colleagues. Choose an event date for next year and get the date on relevant community and organizational calendars.

Year-Round

- Incorporate Building with Biology materials into other activities. These activities could be used for camps, afterschool clubs, science festivals, and other activities.
- Check out additional resources at www.buildingwithbiology.org.
- Leverage the partnerships you have established through Building with Biology for other projects.
- Continue to brainstorm ways to sustain your local Building with Biology event for years to come.

Finding A Scientist in Your Area

The Building with Biology project requires informal science education organizations (museums) receiving a physical kit to collaborate with scientists. Ideally this would be a scientist who is involved in synthetic biology or in a related field such as genetics, microbiology, molecular biology, chemical engineering, biological engineering, or chemistry. Scientists may include professors and research staff from universities, iGEM team members, undergraduate and graduate students, and representatives from DIY Bio centers and industry.

Who you choose to collaborate with is a **local** decision, but receipt of a physical kit does require collaboration between informal science education organizations (museums) and scientists. Building with Biology regional hub leaders will assist you in finding local collaborators in your geographic area (see the Regional Hub Leaders section below for contact information). Kits will include training and orientation materials to help prepare your event volunteers and staff for conversations with the public about synthetic biology.

Here are a few suggestions for finding a scientist connected to synthetic biology in your area:

Local colleges

Many colleges and universities have synthetic biology scientists on staff. Some colleges have synthetic biology programs, but you may often find people in this field located in a variety of departments including genetics, microbiology, molecular biology, biological engineering, and chemical engineering. Once you connect with a faculty or staff member, they can also suggest undergraduate and graduate students who could volunteer at your event.

Professional societies with local chapters

- The purpose of the **American Society for Biochemistry and Molecular Biology (ASBMB)** is to advance the science of biochemistry and molecular biology. ASBMB has thousands of members in the United States; a list of student chapters is available here: <http://www.asbmb.org/education/studentchapters/regions/>
You can add your event here: <http://www.asbmb.org/Outreach/Map/>
- **Society for Biological Engineers** has several student chapters in the United States; a list of student chapters is available here: <http://www.aiche.org/sbe/community/students/chapters>
- **American Chemical Society (ACS)** has 185 local sections in the United States:
<http://webapps.acs.org/llookup/>
<http://www.acs.org/content/acs/en/membership-and-networks/l/websites.html>

iGEM teams

The iGEM Foundation is dedicated to education and competition, advancement of synthetic biology, and the development of open community and collaboration. The iGEM Competition is designed for college students studying synthetic biology; there are over 70 active iGEM teams located in the United States, as well as many iGEM alumni: http://igem.org/Team_List

DIYBio spaces

DIYBio spaces are a network of local community labs that provide opportunities and training for citizen scientists, do-it-yourself biologists and engineers, makers, and biohackers: <http://diybio.org/local/>

Industry representatives

- The Wilson Center has created an interactive map showing both public and private synthetic biology labs: <http://www.synbioproject.org/sbmap/>
- Synberc is a multi-university research center established in 2006 with a grant from the National Science Foundation (NSF) to help lay the foundation for synthetic biology. Synberc's member companies come from all sectors of the biotechnology industry and range from startup to large multinational in size: <http://www.synberc.org/industry/members>

Regional Hub Leaders

Building with Biology regional hub leaders will be able to help connect you with a scientist in your area:

- **Mid-Atlantic:** PA, NJ, MD, DC, DE, OH, and WV
Jayatri Das, jdas@fi.edu, Franklin Institute, Philadelphia, PA, 215-448-1193
- **Northeast:** NY, VT, NH, ME, RI, CT, and MA
Ali Jackson, ajackson@sciencenter.org, Sciencenter, Ithaca, NY, 607-272-0600
- **Southeast:** VA, NC, SC, KY, TN, LA, MS, AL, GA, FL, and Puerto Rico
Brad Herring, bradh@ncmls.org, Museum of Life and Science, Durham, NC, 919-220-5429 x360
- **West:** AK, WA, OR, ID, MT, WY, CO, UT, and NM
Tim Hecox, THecox@omsi.edu, Oregon Museum of Science and Industry, Portland, OR 503-797-4637
- **Midwest:** ND, SD, NE, KS, MN, IA, MO, WI, IL, MI, and IN
Christina Leavell, cleavell@smm.org, Science Museum of Minnesota, St. Paul, MN, 651-221-9434
- **South:** TX, AR, and OK
Kevin Velasquez, kvelasquez@cmhouston.org, Children's Museum of Houston, 713-535-7239
- **Southwest:** CA, NV, AZ, and HI.
Frank Kusiak, frank_kusiak@berkeley.edu, Lawrence Hall of Science, Berkeley, CA, 510-642-3224

How to Find Additional Volunteers

In addition to finding scientist collaborators, museums will probably also need to recruit other volunteers to help with the event. Potential sources of volunteers may include:

- College students, classes, or clubs with community service requirements
- High school science clubs, or students suggested by local high school science teachers
- Local industry staff and retirees
- Local chapters of professional science and engineering groups that are often associated with local colleges, such as:
 - o American Indian Science and Engineering Society: www.aises.org
 - o American Chemical Society (ACS): www.acs.org
 - o Materials Research Society (MRS): www.mrs.org
 - o National Action Council for Minorities in Engineering: www.nacme.org
 - o National Society of Black Engineers (NSBE): www.nsbe.org
 - o National Organization of Gay and Lesbian Scientists and Technical Professionals: www.noglstp.org
 - o Society for Advancement of Chicanos and Native Americans in Science (SACNAS): www.sacnas.org
 - o Society of Asian Scientists and Engineers: www.saseconnect.org
 - o The Society of Mexican American Engineers and Scientists: www.maes-natl.org
 - o Society of Hispanic Professional Engineers: www.shpe.org
 - o Society of Women Engineers (SWE): www.swe.org

Training Staff and Volunteers

The Building with Biology kit contains many training resources that will help your staff and volunteer scientists feel comfortable having conversations with public audiences about the topic of synthetic biology and its societal considerations. All of the resources listed below are also available online at www.buildingwithbiology.org:

- Orientation presentation for staff and volunteers, including a project overview, an introduction to synthetic biology, an introduction to public engagement with science, and details about the educational products
- Facilitator guides for activities and conversations
- Training videos for all activities and the forum
- Tips about visitor conversations
- Guide for hosting a forum
- Online public engagement support for scientist facilitator recruitment, orientation, and participation

The following videos may also be useful training tools to show your staff and volunteers—they provide a great introduction to the topic of synthetic biology and its societal considerations.

- ***Introduction to Synthetic Biology and Society*** A 7:17 minute video produced by the NISE Net and the Museum of Life and Science.
 - <http://vimeopro.com/nisenet/buildingwithbiology/video/160802115>
- ***How Does Synthetic Biology Work?*** A 2:28 minute video produced by MindFuel Canada
 - <http://www.youtube.com/watch?v=ZTBI5NJaNg&feature=youtu.be>
- ***Can we eliminate diseases like Zika, dengue and malaria using gene drives?*** A 6:03 minute video produced by Risk Bites
 - <http://www.youtube.com/watch?v=KgvhUPiDdq8>
- ***Synthetic biology explained*** A 4:23 minute video produced by Grist
 - <http://www.youtube.com/watch?v=mIOFE9-3CN0>

Additional Training Resources

The following orientation opportunities and resources are provided by AAAS to help prepare scientists and volunteers facilitating activities at your Building with Biology event. For a full schedule of orientation activities and registration links, please visit www.buildingwithbiology.org/orientations

Webinars

AAAS hosted three webinars in late May and early June. The webinars offer background context and give participants opportunities to practice public engagement basics, boosting their confidence before the Building with Biology events. You can find all the archived webinars at www.buildingwithbiology.org/orientations.

- **Building with Biology: Public Engagement Fundamentals**

The Building with Biology project is an example of public engagement with science. Explore the value of this form of communication during one of these two sessions.

- **Building with Biology: All About Audiences**

Understanding your audience helps you communicate more effectively. Learn about Americans' perceptions of synthetic biology and consider the audiences at your host site.

- **Building with Biology: Communicating Synthetic Biology**

Practice speaking clearly and concisely about synthetic biology, with an emphasis on one's own research.

There will also be a separate “train-the-trainer” webinar to familiarize event hosts with the orientation materials that they'll use to train scientists and their own staff in public engagement. And finally, there will be an additional web-based opportunity for host sites to ask questions of the project team about the materials and resources in the Building with Biology kits.

Online Community

Scientists and host site staff are invited to join an online community, called “Trellis,” in order to connect with peers across the Building with Biology network, find informative materials about the project and public engagement, share their experiences, and provide tips and feedback.

Many scientists have already opted in to the Trellis community via their Building with Biology application. If any of your scientists, staff, or volunteers would like to join, please email a request to public_engagement@aaas.org.

Passports

You may also choose to use or not use the special event passports included in the kit. These passports can help convey the goal of back-and-forth conversation between facilitators and visitors. Each activity box contains a marker stamp. There is an extra marker in the Open Me First box for the post-it note Graffiti Wall. Each facilitator will need to be prepared to stamp visitors' passports if guests ask them a question and/ or share what they think about synthetic biology. Facilitators who are scientists should wear “I'm a scientist” stickers (found in the Open Me First box) at the event and should be ready to stamp passports if guests talk to them.

Tips for Conversations

Greet your guests

Say “Hello,” make eye contact, and smile. People will come over if you look welcoming, available, and friendly.

Encourage exploration

As much as possible, let your guests do the hands-on parts of the activity. Provide positive feedback and assistance when people need it, but let them experiment and learn for themselves.

Be a good listener

Help guests observe and think about the activity. Try to use questions that have more than one answer. Be interested in what your guests tell you, and let their curiosity and responses drive your conversation forward.

Share what you know

Use clear, simple language. Focus on one main idea—you don’t need to explain everything at once! Keep the information basic for starters, and share more with interested learners.

If you have expertise in synthetic biology, be sure to share that with visitors. Try to relate your research or experience to the activity at hand, the conversation, or things visitors may have learned about through the media or in other parts of the museum.

Use examples from everyday life

Familiar examples can help explain abstract concepts. Be aware of different abilities, keeping in mind that children do not have the same skills or vocabulary as adults.

Offer positive responses

If people haven’t quite grasped a concept, you might say, “That’s a good guess,” or “Very close. Any other ideas?” Never say “No” or “Wrong.” You can offer hints or suggestions for things to think about.

Share accurate information

If you aren’t sure about something, it’s okay to say, “I don’t know. That’s a great question!” Suggest ways that guests can learn more by trying another activity or looking up information at the library or online.

Remain positive

Maintain an inviting facial expression, positive tone, and open body language throughout the interaction.

Thank your guests

As your interaction ends, suggest other activities that you think your guests might enjoy.

Have fun!

A positive experience will encourage learning.

Related educational resources

The NISE Network website (www.nisenet.org) contains additional training resources to help scientists and educators have conversations with museum visitors about the relationship between technology and society: http://www.nisenet.org/catalog/tools_guides/nano_society_training_materials

Evaluating Your Event

Evaluation is a part of this project in a variety of ways in order to capture the impacts of the project activities on volunteers as well as members of the public. Project evaluators will be collecting three kinds of data:

- 1) Evaluation surveys for event hosts:** All event hosts receiving a physical kit will be invited to participate in the summative evaluation through pre- and post-event surveys. We highly encourage event hosts to respond to these surveys to help us learn from your experiences.
- 2) Evaluation surveys for event volunteers:** We encourage event hosts receiving a physical kit to collect email addresses from event volunteers 18 years and older so that volunteers may participate in a post-event volunteer survey. (Event hosts should submit volunteer email address via the required online report within three weeks of hosting the Building with Biology event.)
- 3) Public data collection:** A subset of event hosts receiving a physical kit may opt to participate in evaluation about their public audiences. Event hosts will be given the chance to apply to participate in this evaluation after decisions are made about kit distribution. Participation will involve attending special online evaluation training, support from a member of the project evaluation team as needed, and collecting data from the public at their events using a passport activity and survey instruments provided by the project evaluators. In return for participating in public data collection, evaluators will send you a summary report of your data. Event hosts opting to participate in the collection of data from the public would be required to:
 - a) Provide us with documentation that the person who will be collecting data from the public has completed human subjects training from NIH or CITI. Documentation can be an existing completion certificate or the data collector can complete a 2-hour Human Subjects online training course prior to the event (the online training from NIH is free to complete);
 - b) Have the person who will be collecting data from the public at the event attend a 1-hour online evaluation training specific to the project prior to the event, (evaluators will also be available to provide additional support as needed); and
 - c) This same person who has attended the evaluation training would collect data from the public during the event.

More Information

For project questions and inquiries, please send an email to buildingwithbiology@mos.org

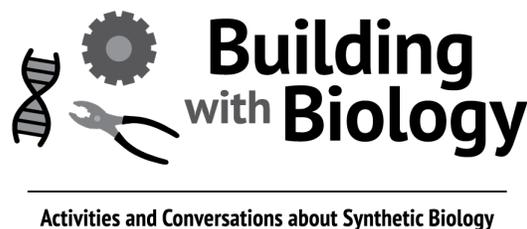
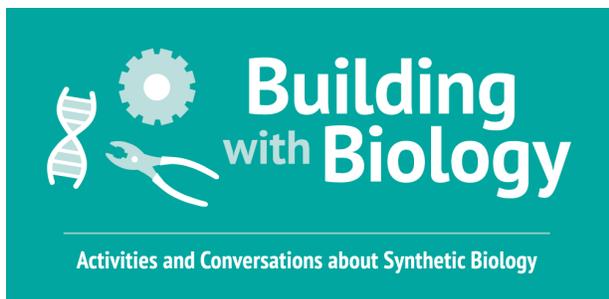
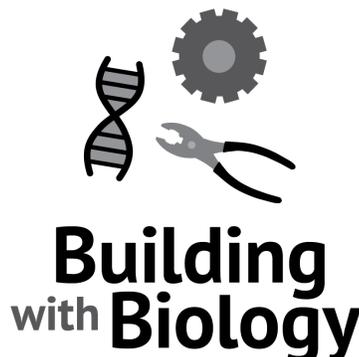
Promotional and Marketing Materials

We've put together a collection of resources to help you promote and market your Building with Biology event. We've designed everything to be as easy to use as possible, by creating templates, common software platforms, and simple instructions for adding your information and logos to generate attractive posters, banners, and other marketing materials.

All of the artwork and images shown on the following pages are available in electronic format on the USB thumb drive included in your kit, or online at www.buildingwithbiology.org. We've provided bilingual Spanish and English options to help promote bilingual events. For questions regarding the usage of the Building with Biology logo or other marketing materials, please send an email to buildingwithbiology@mos.org.

Logos

Building with Biology has several logos available for use in graphic materials. If you create your own Building with Biology materials, use one of the logos we provide. All Building with Biology logos are included on the USB thumb drive, and all of the promotional materials are available on the website at www.buildingwithbiology.org.



Fonts

The Building with Biology project uses two free Google fonts: PT Sans Narrow and Lato. The fonts Calibri and Arial can be used as alternatives.

PT Sans Narrow

free download from www.google.com/fonts

The aim of the Building with Biology project is to create conversations in museums among scientists and public audiences about the emerging field of synthetic biology and its societal implications.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Calibri

The aim of the Building with Biology project is to create conversations in museums among scientists and public audiences about the emerging field of synthetic biology and its societal implications.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Lato

free download from www.google.com/fonts

The aim of the Building with Biology project is to create conversations in museums among scientists and public audiences about the emerging field of synthetic biology and its societal implications.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

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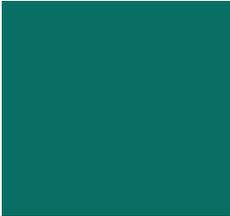
Arial

The aim of the Building with Biology project is to create conversations in museums among scientists and public audiences about the emerging field of synthetic biology and its societal implications.

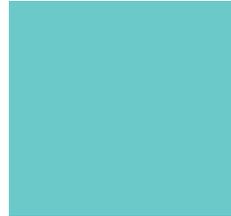
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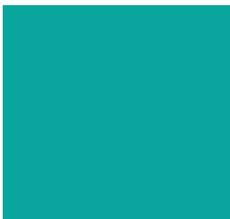
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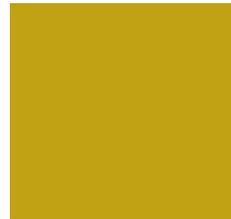
DARK TEAL
C-90 M-36 Y-62 K-18
R-0 G-111 B-101
PMS 562
HTML 006f65



ROBIN'S EGG BLUE
C-54 M-0 Y-23 K-0
R-109 G-202 B-203
PMS 7471
HTML 6dcacb



TEAL
C-85 M-9 Y-45 K-0
R-0 G-116 B-158
PMS 326
HTML 00a69e



GOLD
C-9 M-20 Y-100 K-20
R-193 G-163 B-23
PMS 103
HTML c1a317

Building with Biology Banners

Two large Building with Biology banners are included in your Building with Biology kit (English and bilingual Spanish-English). You can use adhesive vinyl lettering to customize the banner with your event date, times, location, and other information.

If you would like to print additional banners with your customized event information, it's easy to do. Use the banner template on the USB thumb drive, then send your art to one of the many online banner-printing companies or take it to your local printer. A 60" x 24" banner (vinyl, with grommets) should cost about \$100.

English version 60" x 24"

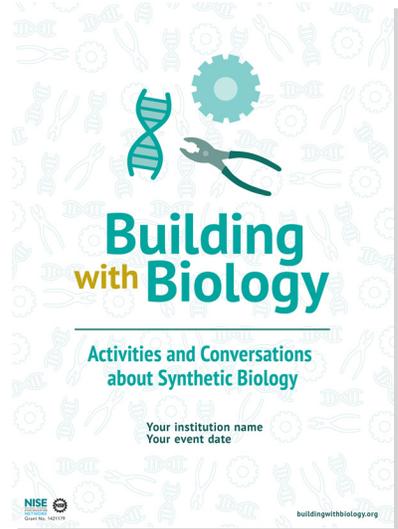
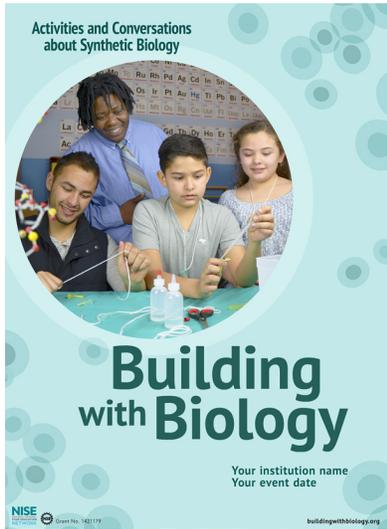


English/Spanish version 60" x 24"

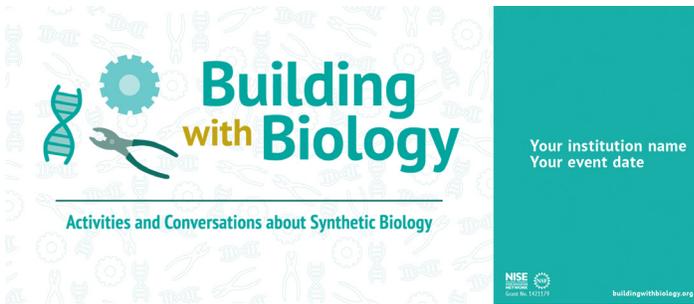


Building with Biology Customizable Ads

standard, 8" x 11", color, pdf,jpg and photoshop files provided

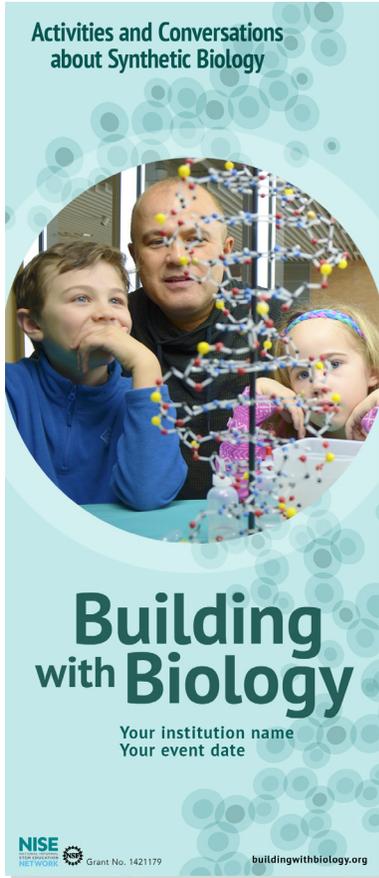


horizontal, 7" x 3", color, pdf,jpg and photoshop files provided



Building with Biology Customizable Ads

vertical, 3" x 7", color, pdf, jpg and photoshop files provided



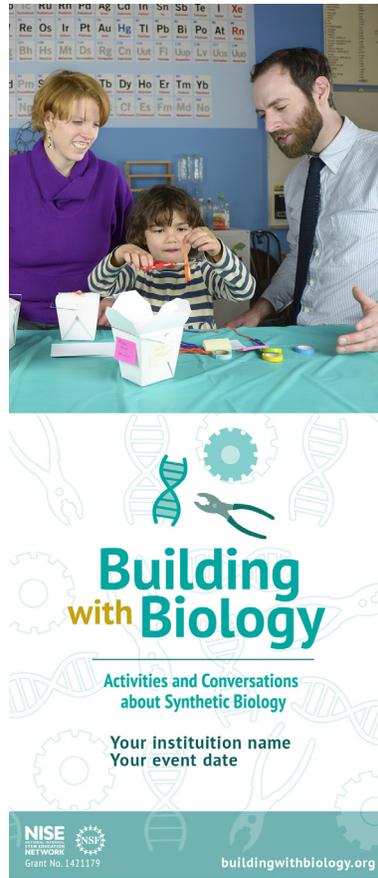
Activities and Conversations
about Synthetic Biology

**Building
with Biology**

Your institution name
Your event date

NISE
NATIONAL INSTRUMENTS
NETWORK Grant No. 1421179

buildingwithbiology.org



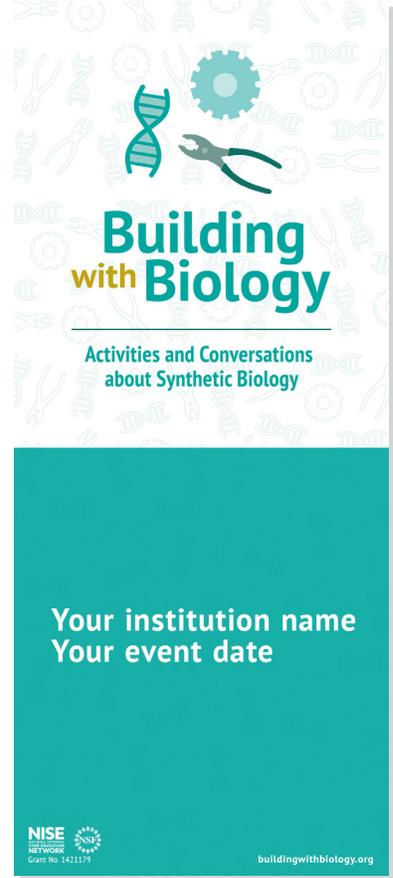
**Building
with Biology**

Activities and Conversations
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buildingwithbiology.org



**Building
with Biology**

Activities and Conversations
about Synthetic Biology

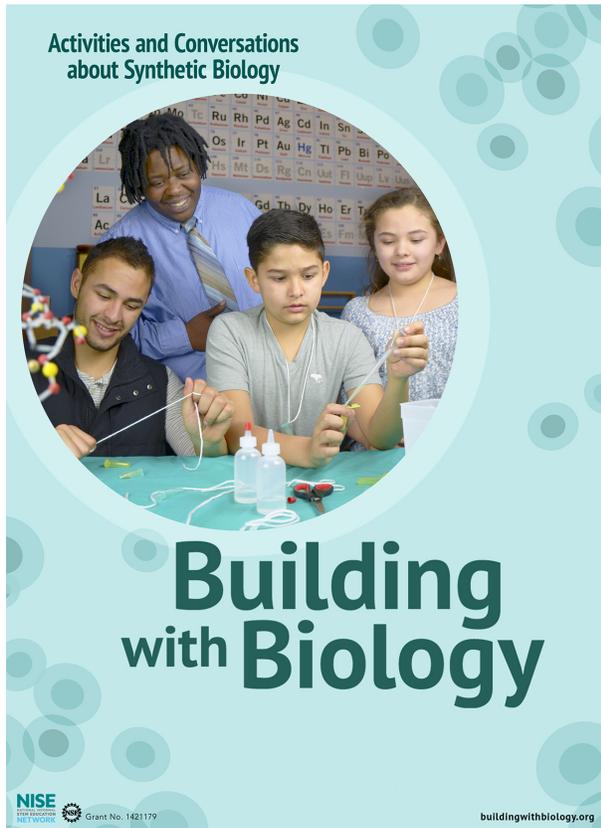
Your institution name
Your event date

NISE
NATIONAL INSTRUMENTS
NETWORK Grant No. 1421179

buildingwithbiology.org

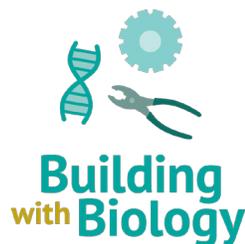
Building with Biology Posters

vertical, 11" x 17", color, pdf, jpg and photoshop files provided



Sample Press Release

Your logo here



Date:
Contact:
Phone:
Email:

Celebrate Building with Biology [at name of your organization]!

[Insert your local Building with Biology location, dates, and specific activity information here].

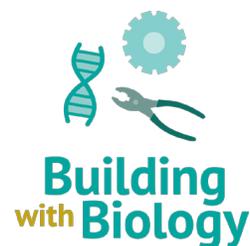
The Building with Biology event at [name of your organization] is part of a nationwide festival of educational programs designed to encourage conversations between the public and scientists. This exciting event provides an opportunity to learn about the emerging field of synthetic biology and talk with real scientists doing this work!

The Building with Biology project is funded by the National Science Foundation and led by the Museum of Science, Boston. Building with Biology kits are developed and distributed nationwide in collaboration with the American Association for the Advancement of Science (AAAS), BioBuilder Educational Foundation, the National Informal STEM Education Network, Science Museum of Minnesota, Sciencenter, and Synthetic Biology Engineering Research Center (Synberc). Events are taking place at over 150 museums and institutions throughout the country from June to September 2016.

Building with Biology events provide a special opportunity for scientists and the public to interact directly, and to learn from each other. These activities and conversations encourage public audiences to share ideas and opinions about how they want to see these new technologies developed and adopted. And scientists, too, have the chance to listen to those views, share their own ideas, and to consider ways public comments can affect their research.

Participants at a Building with Biology event can expect fun hands-on activities facilitated by scientists in the field of synthetic biology, biology, genetics, or other related science fields. Visitors will design a “super-organism” to solve a problem, extract DNA from wheat germ, and discuss which future technologies they’d support. These activities are designed to introduce guests to synthetic biology content and promote informal, two-way conversation between the scientists and visitors about how synthetic biology is interconnected with our society.

[insert information about forum events or other special activities that your location may host].



More about the **Multi-Site Public Engagement with Science-Synthetic Biology** project and the **National Informal STEM Education Network**

Project website: www.buildingwithbiology.org

The *Multi-Site Public Engagement with Science–Synthetic Biology* project is led by the Museum of Science, Boston, in collaboration with:

- American Association for the Advancement of Science (AAAS): www.aaas.org
- BioBuilder Educational Foundation: www.biobuilder.org
- National Informal STEM Education Network: www.nisenet.org
- Science Museum of Minnesota: www.smm.org
- Sciencenter, Ithaca: www.sciencenter.org
- Synthetic Biology Engineering Research Center (Synberc): www.synberc.org



The Multi-Site Public Engagement with Science–Synthetic Biology project is supported by the National Science Foundation under Grant Number DRL-1421179. Any opinions, findings, or conclusions expressed in this material are those of the authors, and do not necessarily reflect the views of the National Science Foundation.

Photo Release Form

Most institutions require that some kind of photo release form be signed in order for you to circulate photos from your event in any way. Whether or not this is a formal policy in your institution, you should always ask for permission before photographing participants, especially children. Getting signed releases gives you the flexibility to use your photos in newsletters, reports, and other settings.

We welcome you to share photos from your event with us by sending them to: buildingwithbiology@mos.org. However, we do have the following caveat: in order to be able to use and share photos of local Building with Biology events, we must have a release form signed by each person in the photo. We understand that for many of our partners, it is not possible to get release forms from every person photographed or recorded. For this reason, we do not require or expect photographs of your events.

The National Informal STEM Education Network (NISE Net) photo release form is included on the next page. Fill in your organization's name in the second blank on the first line, then copy the form to use at your event. When you are asking visitors to fill out the form, be sure to explain that they can choose **not** to have their photograph or their child's photograph taken and still participate in the activity.

Here are a few tips to ensure you get a release from every person you photograph:

- If you are using a photographer for your Building with Biology event, be sure to explain to them that they will need to get consent before taking photographs.
- It's helpful to have the releases and pens on a clipboard or two that you can hand to the visitor.
- In larger settings, or spaces with a lot of activity, consider assigning a staff person to join the photographer and ask visitors to sign the release before the photographer takes pictures. This person can ensure that no photographs are taken without consent, and can also ask the photographer to delete any pictures from their camera of visitors who did not consent.
- Jot down a description of the person on their release form (for example, "young girl, brown hair, yellow shirt"). This can help you match releases to photos later on.
- If you are hosting an event with nametags and registration, you can ask visitors to fill out the release when they register. If they have consented to have their photo taken, give them a sticker for their nametag. Then the photographer can take photos only of people with the stickers.

If you are able to get signed releases for your photos, please share them with us! You may send a USB with photos along with a scan of the photo releases to the Museum of Science at:

NISE Network
Museum of Science
1 Science Park
Boston, MA 02114

Alternatively, you can email them to Kayla Berry at buildingwithbiology@mos.org.

Questions regarding acknowledgements or credits can be directed to buildingwithbiology@mos.org as well.

Photo Release

Museum of Science/ Multi-Site Public Engagement with Science/ NISE Network Photo Consent and Release

I, _____, hereby authorize _____ and the Museum of Science, Boston, MA (the "Museums"), as agents acting for and on behalf of the Multi-Site Public Engagement with Science project (MSPES) and the NISE Network, and its partners, agents, representatives, assigns, successors in interest and licensees, to photograph, audiotape, and/or videotape me and grant the Museums and their partners the irrevocable right to use my photograph, audio recording, video recording, or any reproduction or modification thereof (the "Photograph", "Audio", and/or "Video"), in any manner or medium throughout the world an unlimited number of times in perpetuity in advertising, trade, promotion, exhibition, or any other lawful purpose.

I understand that I will not receive any monetary compensation for the permissions I am granting herein. I hereby waive any right of inspection or approval of the uses to which the Museums and the MSPES project and NISE Network may put the Photograph, Audio, and/or Video. I acknowledge the Museums and the MSPES project and NISE Network will rely on this permission and hereby release and discharge the Museums and the MSPES project and NISE Network from any and all claims and demands arising out of or in connection with the Photograph or the exercise of the permissions granted here, including any or all claims for libel, invasion of privacy, or emotional distress.

I understand that I cannot withdraw my consent after I sign this form and that this consent and release is binding on me and my heirs, legal representatives and assigns.

YES NO (please check one)

- I grant permission for Photographs** to be collected and used by the Museums and the MSPES project and NISE Network.
- I grant permission for Audio** to be collected and used by the Museums and the MSPES project and NISE Network.
- I grant permission for Video** to be collected and used by the Museums and the MSPES project and the NISE Network.

Date: _____ Signature: _____

Address: _____

Telephone Number: _____ Email Address: _____

If the individual named above is under 18 years of age, please complete the following:

I am the parent or legal guardian of the individual named above, and I hereby sign this Media Consent and Release on behalf of such individual in accordance with the statements above.

Name: _____

Date: _____ Signature: _____

Address: _____

Telephone Number: _____

NSF Acknowledgement of Support

This Multi-Site Public Engagement with Science—Synthetic Biology project, led by the Museum of Science, Boston, was funded by the National Science Foundation under Grant Number DRL-1421179. Although your event might not receive direct NSF funding, if you use our kit materials or produce deliverables based on the kit materials, you should follow NSF guidelines for acknowledging NSF support.

Statement for deliverables:

This project was based on work supported by the National Science Foundation under Award No. DRL-1421179.

Additional statement for publications:

Any opinions, findings, and conclusions or recommendations expressed in this work are those of the authors and do not necessarily reflect the views of the Foundation.

The NSF logos are available in a variety of colors and file formats that can be downloaded from: www.nsf.gov/policies/logos.jsp. Here are two basic NSF logos:



Photo Credit and Acknowledgement

We encourage you to use the Building with Biology publicity photos in marketing your event, and in creating Building with Biology related materials. These photos were taken by the Science Museum of Minnesota in Saint Paul, MN and by Emily Maletz Graphic Design in Portland, OR.

Please see image thumbnails for credit information.

Building with Biology Press Photos

We have provided a selection of press photos that you can use to market your Building with Biology events. These photos are free for use under a Creative Commons Attribution-NonCommercial-Share Alike license: <http://creativecommons.org/licenses/by-nc-sa/3.0/us/>. Please see image thumbnails for credit information.

Building with Biology Press Photos



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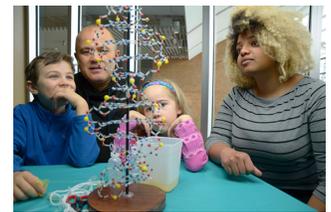
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