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Competition Deliverables

(Note: the time for the DDL is Coordinated Universal Time)

Forms:

Safety forms

There are three safety forms: the **Project Safety Form**, the **Check In Form**, and the **Animal Use Form**.

Judging Form

Judging Form is to ensure a team eligible for medal and awards. (Note: including information for competing special prizes.)

Attributions Form

Describe what work your team members did and what other people did for your project using the standardized form.

Video

Project Promotion Video

(Note: 2 examples:

BIT-China 2022: <https://video.igem.org/w/p/pisgCoPbPpC2Hd1yJ6Qo1H?playlistPosition=2&resume=true>

Aachen 2021: <https://video.igem.org/w/p/m36RVd4xsAyjiXBrDvopTf>)

Presentation Video

		Project Promotion Video	Presentation Video
Technical	Size	$\leq 500MB$	$\leq 1GB$
	Length	$\leq 120s$	$\leq 900s$
	Format	.MP4	
	Resolution	1920 x 1080 (1080p) or higher (4K: 3840 × 2160)	
	Aspect ratio	16:9, landscape orientation	
Content		Introduction: provided by iGEM as the beginning sequence for our video Credits: Everyone who contributed to the video should be attributed	

		<p>Copyrighted material is NOT allowed</p> <p>No country flags are allowed</p> <p>Minors below 18 in video are required to get parental consent</p> <p>Subtitles/captions(English must) of the video should be submitted as a separate .vtt file instead of directly in the editing of the video</p> <p>The primary language of your video narration must be English</p>	
Suggestion		<p>1.What is the problem you want to solve?</p> <p>2.How do you want to communicate this problem to a broad audience?</p> <p>3.What is your solution?</p> <p>4.How does it affect the world?</p> <p>5.What is the impact of your solution?</p> <p>6.How does this video engage or encourage the viewers to see your presentation and/or wiki?</p>	<p>Introduction</p> <p>Project background</p> <p>Project goals</p> <p>Methodology overview</p> <p>Results</p> <p>Human Practices</p> <p>Safety Considerations</p> <p>Next Steps</p> <p>Attributions</p>

Documentation

Project Description:

Project Description should serve as a detailed introduction to your iGEM project providing the background and what to accomplish.

Content Recommended

Why do you believe your project is a useful application of synthetic biology?

What are your project goals and how will you achieve them?

What work outside or inside of iGEM inspired your project?

Team Wiki:

(Note: 2 examples

<https://2022.igem.wiki/dtu-denmark/>

<https://2022.igem.wiki/estonia-tuit/awards>)

(Note: Very detail requirements like using standard URL form and iGEM's server etc.)

Registry Part Pages

iGEM maintains and runs the **Registry of Standard Biological Parts** (or "Registry"), which houses a growing **collection of genetic parts** that can be mixed and matched **to build synthetic biology devices and systems**.

iGEM teams have access to parts, data, and tools on the Registry to work on their synthetic biology projects while **every iGEM teams work with Parts is expected to submit any new biological parts** they created and the design information (the DNA sequence, background information from literature and/or previous iGEM teams, expected

results, etc.) for those new parts to the Registry.

Project Software

For a team who is a wet lab teams that have decided to build a software tool, or a software group looking to get involved in iGEM, or a team competing in the Software & AI Village.

(Note: example: <https://gitlab.igem.org/2022/software-tools>)

Title and Abstract

The title and abstract should accurately reflect the work completed in the team project and the abstract should provide a brief summary of the project.

Declarations

Village Selection

Villages represent the topics that iGEMers are most interested in:

1.Climate Crisis

6.Energy

11.Foundational Advance

2.Environment

7.Agriculture

12.Biomanufacturing

3.Bioremediation

8.Food & Nutrition

13.Software & A.I.

4.Conservation

9.Diagnostics

14.Industrial Scale-Up

5.Space

10.Therapeutics

~~15.High School~~

Team Roaster

Inputting team members' accounts into the Team Information page

Jamboree

Judging Session:

At your judging session, you can expect:

(a)5-minute introduction delivered by your team to your judges

(b)20-minute Question & Answer time directly with your judges

(c)5-minute turnover time to the next team

Team Booth

Village Presentation

Contribution Making

Make a useful contribution for future iGEM teams.

(包括但不限于)

Add new documentation to an existing Part on that Part's **Registry** page

Build upon an existing **software or hardware tool**

Document **troubleshooting** that would be helpful to future teams

Create a **3D printed piece of hardware** and document how to make it

Judging Workflow for Teams

There are two major parts of the judging workflow for teams: learning and documenting.

We need to learn about the judging criteria that we will be evaluated on by our panel of judges to make sure we provide the accurate content for the Medals, Awards, and Rubric.

Rubric

The main mechanism through which iGEM teams are evaluated is called the Rubric. The questions provided by Rubric are call aspects. For each aspect, a judge must select between six language choices that cover the range of how the judge could perceive the quality of the work. The language choices roughly correspond to:

- 1-Amazing work; impressive
- 2-Great work; complete with some impressive components
- 3-Good work; complete
- 4-Some work done; incomplete
- 5-Less work done; multiple missing components
- 6-Poor work done or completely absent

For the project in general and for each Special Prize, those aspects are shown in <https://competition.igem.org/judging/rubric>

For example:

General Project

- 1How impressive is this project?
- 2Did the project work or is it likely to work?
- 3Is the project likely to have an impact?
- 4How well were engineering principles used (e.g., design-build-test cycle, use of standards, modularity, etc.)?
- 5How thoughtful and thorough was the team's consideration of human practices?
- 6How much of the work did the team do themselves and how much was done by others?

- 7Did the team design a project based on synthetic biology and standard components (BioBricks, software, etc.)?
- 8Are the project components well documented on the team's wiki/Registry pages (parts should be documented in the Registry)?
- 9How competent were the team members at answering questions during the Judging Session?

Special Prize of Wiki

- 1How well does the wiki communicate the team's project and their goals?
- 2Did the team clearly document their project and support their results with convincing experimental evidence?
- 3Does the design of the wiki support visitors in finding and understanding the content?
- 4Will the wiki be a compelling record of the team's project for future teams?
- 5Is the content (including text, images, and prior work from iGEM teams and other research groups) on the wiki properly referenced and cited?

Awards(Prizes)

Grand Prizes

A small number of iGEM Teams will be selected by the judges as iGEM Finalists. These teams will be selected based on the overall excellence of their entire iGEM project, including contributions from the quality of the Team Wiki and Presentation. (Note: general project(Judging Session)+ Wiki+Presentation)(状元)

First place/Grand Prize Undergraduate, celebrates the best overall undergraduate team project.

Second place/First Runner-Up Undergraduate, celebrates the next highest ranking undergraduate team project.

Third place/ second Runner-Up Undergraduate, celebrates the next highest ranking undergraduate team project.

Village Awards.

The winners are determined by the weighted average of the Project, Presentation, and Wiki categories on the rubric as compared to the other teams in the same village. (Note: general project(Judging Session)+ Wiki+Presentation)(会元)

Best Climate Crisis Project: What approaches to addressing the climate crisis are possible with synthetic biology?

Best Environment Project: Can biotechnology be used to help clean the air, provide fresh drinking water, or prevent the accumulation of antibiotics and antibiotic resistant microorganisms in the environment?

Best Bioremediation Project: Can a team use synthetic biology to harness the power of microorganisms or plants to detoxify contaminants?

Best Conservation Project: How can synthetic biology be applied to the protection of endangered species, or the reversal of anthropogenic extinctions?

Best Space Project: How can synthetic biology tackle the challenges astronauts will face in the coming years.

Best Energy Project: Can we use synthetic biology to create sustainable energy?

Best Agriculture Project: How will a team apply synthetic biology to revolutionize agriculture?

Best Food & Nutrition Project: Can biotechnology be responsibly used to reduce food waste or produce nutritional molecules without shortage?

Best Diagnostics Project: Can a team come up with faster, cheaper and better diagnostics techniques to improve

access to medical treatment?

Best Therapeutics Project: What can synthetic biology do to improve techniques and access to novel therapies?

Best Foundational Advance Project: Have you discovered and applied a new technique that could revolutionize synthetic biology?

Best Software & AI Project: What will a team build to bring a new level of computational power to synthetic biology?

Best Biomanufacturing Project: What can biology be programmed to manufacture?

Best Industrial Scale-Up Project: How can a team try to achieve the industrial scale-up.

Special Prizes

Each prize will be awarded at the discretion of the judges based on how impressed they are with the level of excellence demonstrated by teams.

Best Education: for a team trying to include more people in shaping synthetic biology

Best Entrepreneurship: recognizes exceptional effort to build a business case and commercialize an iGEM project.

Best Hardware: for the team that has developed a piece of hardware for synthetic biology(eg. A sensor or a robot)

Inclusivity Award: recognizes exceptional efforts to include people with diverse identities

Best Integrated Human Practices: ---

Best Measurement: recognizes those who design great measurement approaches for characterizing new parts.

Best Model:---

Best New Basic Part: for those who take the opportunity to find new, cool, and important genetically encoded functions.

Best New Composite Part: recognizes those who make new BioBrick devices by combining existing BioBrick Parts.

Best New Improved Part: recognizes those who redesign an existing part to create a new part.

Best Part Collection:---

Best Plant Synthetic Biology: to celebrate exemplary work done in plant synthetic biology.

Best Presentation:---

Safety and Security Award: recognizes those who make the synthetic tools more safe.

Best Software Tool:---

Best Sustainable Development Impact: recognizes those who come up with solutions to meet SDGs

Best Wiki:---

Community-Awarded Prizes

iGEMers' Prize(voted on by iGEM)

Best Project Promotion Video Prize

Medals.(Accomplishments gains Medals)

	Team	Promotion	Presentation	Judging	Judging	Project	Project		Engineering	Human	Excellence in
	Wiki	Video	Video	Form	Session	Attributions	Description	Contribution	Success	Practices	Synthetic Biology

Bronze	✓	✓	✓	✓	✓	✓	✓	✓			
Silver	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Gold	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Medals allow us to **celebrate the accomplishments** of our whole iGEM teams highlighting the principles of iGEM: respect, community, and honesty. And there are three levels:

Bronze Medal

For teams that have participated in, presented their work, and made a contribution for future teams. (Note: Basic requirements for a team chasing any award)

Criteria:

1. Complete the following Competition Deliverables:
2. Team Wiki, Project Promotion Video, Project Presentation Video, Judging Form, and Judging Session.
3. Filling the Project Attributions form and documenting Project Description.
4. Contribution

Silver Medal

For teams that have addressed these key pillars of their project: **Engineering Success and Human Practices**.
(Note: Adding aspects of Engineering and Human Practices on the basis of Bronze Medal)

Criteria:

1. All Bronze criteria
2. Having Engineering Success:
 - (Design) specify a biological system with an intended function.
 - (Build) encoding the biological system or a part of it.
 - (Test) Test the function of the engineered biological system.
 - (Learn) develop improved models.
3. Human Practices: Explain how you have determined your work is responsible and good for the world.

Gold Medal

For teams that have shown excellence beyond the Silver Medal in General Biological Engineering and chosen Specializations. (Note: Requirements for Silver Medal are met and three aspects of Specialization is achieved.)

Criteria

1. All Bronze and Silver Medal
2. Excellence in Synthetic Biology: demonstrating excellence in both General Biological Engineering and in at least one Specialization (i.e. special prizes).
 - Special prizes are divided into General Biological Engineering category (New Basic Part, New Composite Part, New Improved Part, Measurement, Model, Part Collection) and Specializations category (Education, Entrepreneurship, Hardware, Inclusivity, Integrated Human Practices, Plant Synthetic Biology, Safety and Security, Software, Sustainable Development)