

Biotech Futures Challenge Rulebook

2022

Rules and guidelines in this Rulebook have been adapted from rules of the Regeneron International Science and Engineering Fair (ISEF) and students competing at Society for Science and the Public affiliated science fairs.

The purpose of these rules is to:

- protect the rights and welfare of the student researcher
- protect the rights and welfare of the human participant
- ensure use of safe laboratory practices
- protect the environment
- determine eligibility for Biotech Futures Challenge 2022

Ethics Statement

Students, as well as adults who have a role in their projects, are expected to maintain the highest ethical standards. These standards include, but are not limited to:

Integrity

Honesty, objectivity, and avoidance of conflicts of interest are expected during every phase of the project. The project should reflect independent research done by the student(s) and represent work conducted during the challenge period only.

Respect for Confidentiality and Intellectual Property

Confidential communications, as well as patents, copyrights, and other forms of intellectual property must be honored. Unpublished data, methods, or results may not be used without permission, and credit must be given for all contributions to the research.

Stewardship of the Environment

It is the responsibility of the student and the adults involved to protect the environment from harm. Introduction or disposal of native, genetically-altered, and/or invasive species, (e.g. insects, plants, invertebrates, vertebrates), pathogens, toxic chemicals or foreign substances into the environment is prohibited.

Acknowledgment of Risks

All projects involving risks should be managed by recognizing the hazards, assessing the risks, minimizing the risks, and preparing for emergencies.

Potentially Hazardous Biological Agents (PHBAs)

It is the responsibility of the student and adults involved in the project to conduct and document a risk assessment, and to safely handle and dispose of organisms and materials.

Eligibility/Limitations

1. Students participating in the Biotech Futures Challenge 2022 must be in grades 9–12 or equivalent
2. Each student is only allowed to enter one project. The project may not include research performed before the challenge announcement date.
3. A research project may be a part of a larger study performed by professional scientists, but the project presented by the student must be only their own portion of the complete study.

Team Projects

1. Team membership cannot be changed during the challenge unless there are extenuating circumstances and the project review committee approves the change, including converting a team project to an individual project or vice versa. Such conversions must address rationale for the change and include a clear delineation between research preceding the change and that which will follow.
2. Each team is encouraged to appoint a team leader to coordinate the work and act as spokesperson. However, each member of the team should be able to serve as spokesperson, be fully involved with

the project, and be familiar with all aspects of the project. The final work should reflect the coordinated efforts of all team members and will be evaluated using the same judging criteria as individual projects.

Roles and responsibilities of students and adults

Student(s)

The student(s) is responsible for all aspects of the research project:

- Enlisting the aid of any required supervisory adults (Adult supervisor or mentors), completing the registration process.
- Following the Biotech Futures Challenge Rules & Guidelines and completing all appropriate processes and documentation.
- Completing the project (which may include, but is not limited to) experimentation, data collection, engineering, data analysis, and any other process or procedures related to the project.

The Adult Supervisor

- An Adult Supervisor may be a teacher or a parent.
- The Adult supervisor should be familiar with the regulations around procedures and materials that apply to the student project, particularly when involving potentially hazardous biological agents or hazardous chemicals, devices or activities.
- The Adult supervisor should have close contact with the student throughout the timeline of the project.

Mentor

The Mentor is responsible for:

- Reviewing the rules relevant to the project and approving the student's research plan and prototype or experimentation if applicable.
- Providing appropriate time to guide their teams and help them in the formation and development of their idea (maximum ten hours per team).

- Providing relevant open access literature to help students research their topic. If a particular pay-wall protected paper is necessary to the project, then the mentors should provide an executive summary on the key points of that paper.
- Reviewing their team's aim, hypothesis, literature review and methods before approving any experiments to be done by the team (not all teams will need to conduct experiments).
- Providing insights into their own areas of research aside from serving as a source of scientific and engineering knowledge to help provide students with a better understanding as to what tertiary pursuit of STEM can entail and lead to.
- Responding to students' call within a maximum ten hours per team limit. All calls should be in the presence of an adult supervisor. All communication should be solely through either email using their official, registered email address, online conference calls (zoom/skype) or over the phone, or via the members site on the BIOTech Futures official website.
- Mentors must have a valid WWCC NSW or equivalent in their state (for Victorian schools/mentors)

Communication

- Each team is allowed a maximum of 10 hours contact with their mentors during the challenge.
- Students need to nominate their school/education domain email address for all communications during the challenge.
- All email communications exchanged between the students and mentors should include the nominated adult supervisor as a recipient.
- Skype or zoom calls should be initiated by the mentors.
- Any other mode of communication (other than email, skype and zoom) should be initiated by the adult supervisor in consultation with the mentor. The only exception is communication via the members site on the BIOTech Futures official website which can be initiated by either party.

Website Forum Rules

The forum is a place where people can interact and have discussions about different topics. We ask that you follow these guidelines to ensure that the forums have some productive conversation. These rules and guidelines are enforced by administrators and moderators, and at their discretion they may delete posts without warning that do not comply. Also, failure to comply with these rules or our code of conduct may result in a ban from the forum.

We rely on all forum members to help keep these discussion forums a safe place for people to share and view information. To do this, we request that all members comply with the following rules when contributing to the discussion forums:

- Keep it friendly
- Be courteous and respectful. Appreciate that others may have an opinion different from yours.
- Stay on topic. When creating a new discussion thread, give a clear topic title and put your post in the appropriate category. When contributing to an existing discussion, try to stay 'on topic'. If something new comes up within a topic that you would like to discuss, start a new thread.
- Share your knowledge. Don't hold back in sharing your knowledge – it's likely someone will find it useful or interesting. When you give information, provide your sources.
- Refrain from demeaning, discriminatory, or harassing behaviour and speech.

We maintain the rights to remove posts and threads to ensure that material posted in the discussion forums is not potentially harmful. For this reason, we may edit or choose not to publish any post, that:

- contains disrespectful or derogatory remarks about any person
- contains advice or content that we believe is damaging, unhelpful or distressing to others
- contains swearing or offensive language, is nonsensical and/or irrelevant
- promotes personal beliefs in a way that is disrespectful of the choices of others

- infringes the privacy of individuals or service providers
- is a copy of another post or contains the same, or similar, message posted multiple times elsewhere
- is racist, sexist, homophobic, sexually explicit or suggestive, abusive or otherwise discriminatory or objectionable