

# ISEF General Rules and Guidelines

## International rules for pre-college science research

The 2020 International Rules are applicable for the International Science and Engineering Fair 2020 to be held in Anaheim, California, May 10-15, 2020.

**The International Rules for Pre-college Science Research: Guidelines for Science and Engineering Fairs** are published annually to support students doing independent research safely. They are the official rules of the ISEF and students competing at a Society-affiliated science fair.

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 adherence to federal regulations
- ensure use of safe laboratory practices
- protect the environment
- determine eligibility for competition in the ISEF 2020

For rules questions, please contact the ISEF Scientific Review Committee at [SRC@societyforscience.org](mailto:SRC@societyforscience.org).

## Rules for All Projects

### Ethics Statement

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

- **Integrity.** Honesty, objectivity, and avoidance of conflicts of interest are expected during every phase of the research. The project should reflect independent research done by the student(s), and represent only one year's work.
- **Legality.** Compliance with all federal, country, state and local laws is essential. All projects must be approved by a Scientific Review Committee (SRC), and when necessary must also be approved by an Institutional Review Board (IRB), Institutional Animal Care and Use Committee (IACUC), and/or Institutional Biosafety Committee (IBC).
- **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 Unpublished data, methods, or results may not be used without permission, and credit must be given to all contributions to research.

- **Stewardship of the Environment.** It is the responsibility of the researcher(s) and the adults involved to protect the environment and its organisms from harm. All projects involve some amount of risk. Everyone is expected to recognize the hazards, assess the risks, minimize them, and prepare for emergencies.
- **Animal Care.** Proper care and respect must be given to vertebrate animals. The guiding principles for the use of animals in research includes the following "Four R's": Replace, Reduce, Refine, Respect.
- **Human Participant Protection.** The highest priority is the health and well-being of the student researcher(s) and human participants.
- **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.

Scientific fraud and misconduct are not condoned at any level of research or competition. This includes plagiarism, forgery, use or presentation of other researcher's work as one's own and fabrication of data. Fraudulent projects will fail to qualify for competition in affiliated fairs and ISEF. Society for Science and the Public reserves the right to revoke recognition of a project subsequently found to have been fraudulent.

## Eligibility/Limitations

1. Each Intel ISEF-affiliated fair may send to Intel ISEF the number of projects provided by their affiliation agreement.
2. A student must be selected by an Intel ISEF-affiliated fair, and meet both of the following:
  - a. be in grades 9-12 or equivalent; and
  - b. not have reached age 20 on or before May 1 preceding the Intel ISEF.
3. English is the official language of the Intel ISEF. Student project boards and abstracts must be in English.
4. Each student is only allowed to enter one project. That project may include no more than 12 months of continuous research and may not include research performed before January 2018.
5. Team projects must have no more than three members. Teams competing at Intel ISEF must be composed of members who all meet Intel ISEF eligibility.
6. Students may compete in only one Intel ISEF affiliated fair, except when proceeding to a state/national fair affiliated with the Intel ISEF from an affiliated regional fair.
7. Projects that are demonstrations, 'library' research or informational projects, 'explanation' models or kit building are not appropriate for the Intel ISEF.
8. All sciences (physical, life, social) are represented at the Intel ISEF. Review a [complete list of](#)

[categories and sub-categories with definitions.](#)

9. 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.

## Requirements

### General

1. All domestic and international students competing in an ISEF-affiliated fair must adhere to all rules as set forth in this document.
2. All projects must adhere to the Ethics Statement above.
3. It is the responsibility of the student and the Adult Sponsor to evaluate the study to determine if the research will require forms and/or review and approval prior to experimentation.
4. Projects must adhere to local, state and U.S. Federal laws, regulations and permitting conditions. In addition, projects conducted outside the U.S. must also adhere to the laws of the country and jurisdiction in which the project was performed.
5. The use of non-animal research methods and alternatives to animal research are strongly encouraged and must be explored before conducting a vertebrate animal project.
6. Introduction or disposal of non-native, genetically-altered, and/or invasive species (e.g. insects, plants, invertebrates, vertebrates), pathogens, toxic chemicals or foreign substances into the environment is prohibited. It is recommended that students reference their local, state or national regulations and quarantine lists.
7. Projects competing at ISEF must have an exhibit that adheres to ISEF Display & Safety requirements and is visible during all operable hours of the exhibit hall without reliance on electricity or internet connections.
8. All projects must adhere to the requirements of the affiliated fair(s) in which it competes to qualify for participation in ISEF. Affiliated fairs may have additional restrictions or requirements. Knowledge of these requirements is the responsibility of the student and Adult Sponsor.

### Approval and Documentation

1. Before experimentation begins, a local or regional Institutional Review Board (IRB) or Scientific Review Committee (SRC) associated with the ISEF-affiliated fair must review and approve most projects involving human participants, vertebrate animals, and potentially hazardous biological agents. **Note: If a project involves the testing of a student designed invention, prototype or concept by a human, an IRB review and approval may be required prior to experimentation. See Human Participants Rules for details.**

2. Every student must complete the [Student Checklist \(1A\)](#), a [Research Plan/Project Summary](#) and [Approval Form \(1B\)](#) and review the project with the Adult Sponsor in coordination with completion by the Adult Sponsor of the [Checklist for Adult Sponsor \(1\)](#).
3. A [Qualified Scientist](#) is required for all studies involving Biosafety Lab-2 (BSL-2) potentially hazardous biological agents and DEA-controlled substances and is also required for many human participant studies and many vertebrate animal studies.
4. After initial IRB/SRC approval (if required), any proposed changes in the [Student Checklist \(1A\)](#) and Research Plan/Project Summary must be re-approved before laboratory experimentation/data collection resumes.
5. Projects which are continuations of a previous year's work and which require IRB/SRC approval must undergo the review process with the current year Research Plan/Project Summary prior to experimentation/data collection for the current year.
6. Any continuing project must document that the additional research is new and different. ([Continuation/Research Progression Projects Form \(7\)](#)).
7. If work was conducted in a regulated research institution, industrial setting or any work site other than home, school or field at any time during the current ISEF project year, the [Regulated Research Institutional/Industrial Setting Form \(1C\)](#) must be completed and displayed at the project booth.
8. After experimentation, each student or team must submit a (maximum) 250-word, one-page abstract which summarizes the current year's work. The abstract must describe research conducted by the student, not by the supervising adult(s).
9. A project data book and research paper are not required, but are strongly recommended for judging purposes. Regional or local fairs may require a project data book and/or a research paper. Page 4 International Rules: Guidelines for Science and Engineering Fairs 2019 – 2020, [societyforscience.org/ISEF2020](http://societyforscience.org/ISEF2020)
10. All signed forms, certifications, and permits must be available for review by all regional, state, national and international affiliated fair SRCs in which the student(s) participate. This review must occur after experimentation and before competition.

## **Continuation/ Research Progression of Projects**

1. As in the professional world, research projects may build on work performed previously. A valid continuation project is a sound scientific endeavor. Students will be judged only on laboratory experiment/data collection performed over 12 continuous months beginning no earlier than January 2019 and ending May 2020.
2. Any project based on the student's prior research could be considered a continuation/research progression project. These projects must document that the additional research is a substantive expansion from prior work (e.g. testing a new variable or new line of investigation). Repetition of

previous experimentation with the same methodology and research question, even with an increased sample size, is an example of an unacceptable continuation.

3. The display board and abstract must reflect the current year's work only. The project title displayed in the finalist's booth may mention years (for example, "Year Two of an Ongoing Study"). Previous year's databooks, research papers and supporting documents may be at the booth if properly labeled as such.

4. Longitudinal studies are permitted as an acceptable continuation under the following conditions:

- a. The study is a multi-year study testing or documenting the same variables in which time is a critical variable. (Examples: Effect of high rain or drought on soil in a given basin, return of flora and fauna in a burned area over time.)
- b. Each consecutive year must demonstrate time-based change
- c. The display board must be based on collective past conclusionary data and its comparison to the current year data set. No raw data from previous years may be displayed.

5. All projects must be reviewed and approved each year and forms must be completed for the new year.

6. NOTE: For competition in ISEF, the Continuation Research Progression Project Form (7) is required for projects in the same field of study as a previous project. This form must be displayed at the project booth. Retention of all prior years' paperwork is required and must be presented to the ISEF SRC upon request.

## **Team Projects**

1. Team projects compete and are judged in the category of their research at ISEF. All team members must meet the eligibility requirements for ISEF.

2. Teams must have no more than three members. A team with members from different geographic regions may compete at an affiliated fair of one of its members, but not at multiple fairs. However, each affiliated fair holds the authority to determine whether teams with members outside of a fair's geographic territory are eligible to compete, understanding that if the team wins the right to attend ISEF, all team members' expenses must be supported by the fair.

- a. Team membership cannot be changed during a given research year unless there are extenuating circumstances and the local SRC reviews and 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. A memorandum documenting this review and approval should be attached to Form 1A.
- b. Once a project has competed in a science fair at any level, team membership cannot change and the project cannot be converted from an individual project to a team project or vice versa.

- c. In a future research year, any project may be converted from an individual to a team project, from a team to an individual project and/or have a change in team membership.
3. 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.
  4. Each team member must submit an Approval Form (1B). Team members must jointly submit the Checklist for Adult Sponsor (1), one abstract, a Student Checklist (1A), a Research Plan/Project Summary and other required forms.
  5. Full names of all team members must appear on the abstract and forms.