

**State Science and
Engineering Fair of Florida**

2020-21

**SSEF of Florida RULES
SUPPLEMENT**

**to the
International Science &
Engineering Fair
Rules**

www.ssefflorida.com

All students, teachers, schools should be provided the resources and training to properly write and approve Research Plans.

Please make sure the **projects allowed to enter your fair adhere to the ISEF rules and SSEF of Florida Rules Supplement**. All Projects should be critically reviewed before entering an Affiliated Regional Science and Engineering Fair.

All members of the Scientific Review Committee (SRC) for the State Science and Engineering Fair of Florida are more than happy to assist you with questions as your students and teachers begin submitting their Research Plans for approval. (see page 10).

SSEF has the right to make rules stricter than those stated by ISEF. Please review this supplement carefully so that you are aware of our additional requirements.

It is the responsibility of the Regional Science & Engineering Fair Directors, Scientific Review Committees and Institutional Review Boards to develop a complete knowledge and understanding of the *ISEF & SSEF Rules Supplement*. The Regional Director **MUST** make every effort to ensure that each person and committee involved in science research or intending to participate in an affiliated science fair receive copies of both *ISEF & SSEF Rules Supplement* documents and follow **ALL** the rules outlined within them. All of the **RULES, REGULATIONS, and PROCEDURES** of the *Intel ISEF* are in effect at each affiliated regional science fair and at the *SSEF of Florida*. In addition, the following SSEF Rules must be followed. Regional and local fairs may also adopt more restrictive rules.

8.17.2020

If anyone at the school or regional fair level needs to consult with someone concerning *ISEF Rules* or this *SSEF Rules Supplement* they are encouraged to contact:

Sharon Suits, Chairperson
SSEF Scientific Review Committee
(863) 763-4245 or (863) 610-2054
shsuits@icloud.com

Kim Rex, Chairperson
SSEF Display and Safety Committee
(863) 860-7092
kim.rex@polk-fl.net

Maia McGuire, Co-Chairperson
SSEF Display and Safety Committee
(386)-437-7464
mpmcg@ufl.edu

Dan Thomas, Chairperson
SSEF Logistics Committee
(863) 462-5288
thomasdc@okee.k12.fl.us

Nancy Besley, Executive Director
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Goldenrod, FL 32733
(407) 473-8475
nancybesley@gmail.com

✓ *See page 10 for more Contact Resources*

- ❖ Regional directors/Regional Representatives are required to participate in the Scientific Review of all projects entered in the SSEF of Florida.

SSEF of Florida Official Rules Supplement

❖ Eligibility for SSEF of Florida

1. Each SSEF of Florida affiliated fair may send to SSEF of Florida the number of projects allocated and committed to within their affiliation agreement.
2. A student must be selected by the SSEF of Florida affiliated fair.
3. 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 2020.
 - a. **NOTE: Projects/research that was conducted January 2020 – March 2020 for a 2020 school fair, regional fair, or for SSEF of Florida, may NOT be presented for 2021 without meeting the continuation criteria using ISEF documentation Form #7.**
 - b. **see page 4, Regeneron ISEF Rules, Continuation/Research Progression of Projects .**
4. Team projects must have no more than three members. Teams competing at SSEF of Florida must be composed of the original members who competed at the SSEF of Florida affiliated fair.
5. Students may compete in only one SSEF of Florida affiliated fair.
6. Projects that are demonstration, ‘library’ research or informational projects, ‘explanation’ models are not recommended or appropriate for SSEF of Florida.
7. A research project may be 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.**

❖ Electricity

There will be *NO* electricity available for display lighting purposes. Electricity will only be available on a pre-paid fee basis and may only be used if it is a necessary part of the experimental process.

❖ Abstracts

- All abstracts for the **2021 SSEF MUST** be on the **approved 2021 SSEF Abstract form** which is available at **www.ssefflorida.com**.
- The Official Stamped Abstract must be displayed at or on the project board.
- **No copies of the abstract or research plan may be distributed to judges or to the public.**

❖ Bibliography – SSEF will continue to require 5 bibliographic references including those indicated below:

- If a student uses procedures taken from a published study, laboratory standards, or equipment manual, a complete citation is needed. See Formatting Guide at (www.ssefflorida.com) **MUST** be included with the **Research Plan**, otherwise the procedure **MUST** be written in complete detail into the research plan.
- If a student uses humans, non-human vertebrates, or PHBAs (Potentially Hazardous Biological Agents) in their research, a reference to the protection of human subjects, vertebrate subject care, or a reference to appropriate microbiological technique **MUST** be cited in their bibliography.
- An Article’s Digital Object Identifier or DOI is permitted as a referencing style.

❖ **Research Plan**

- A Research Plan, including a detailed outline of the student's involvement in procedures utilized during the research process, must be submitted with each project. The research plan must include materials, chemicals (stated in appropriate metric units) and apparatus used, organisms or subjects involved in a clear step-by-step procedure that can be followed, safety considerations, aseptic techniques and disposal. It is NOT a research report and should not include details about procedures in which the student researcher was not directly involved.
- A Project Summary is only required if the student makes a change in the procedures outlined in the student's original Research Plan.

❖ **Work in the field**

- When research is carried out on private property written permission from the property owner must be secured and submitted with project paperwork.
- City, county, and/or state parks may require prior approval for students to collect samples. If so, all approvals must be secured and submitted with project paperwork.

❖ **Human Participation Projects**

Great care should be utilized in the selection of the members of the IRB. Members must be appropriate for the field of study in which the student is engaged. **Failure to constitute the IRB properly for the student's project can result in the project failing to qualify for competition at the State Science Fair.**

- **ALL** projects involving humans **must be reviewed by an IRB prior to experimentation.**
- Written parental consent is required for all projects involving participation of minors.
- Students conducting research at a registered research institute (RRI) that requires IRB or IACUC approval must have the appropriate documents approved by the committees at the institute where the research is being done (ISEF Human Participant Rules, #2b). Documentation from the student's mentor is **not** sufficient.
- Student researchers with assent or consent forms must supply the quantity of each type (assent or consent) using the **Verification of Informed Consent Form (VICF)**. (www.ssefflorida.com) They must also submit a Form 4 and redacted consent Form to the SSEF SRC.
- If a student's project includes media, scripts, surveys, songs or lyrics these must be reviewed by an IRB prior to experimentation and must be available for subsequent review at each level of participation. Rating of videos and/or videos games must be provided in the research plan and on the informed consent form.
- Human participation projects that involve laboratory tests/procedures (e.g. blood tests, cultures, x-rays, etc.) must include information in the research plan about how the costs of the tests will be paid. If the costs will be paid by the human subject or their health insurance, the risk section of the Human Informed Consent Form must include the following statement: "tests and/or procedures in this project may be billed to you or your health insurance. "
- Any student project that results in providing a medical diagnosis to a human participant, such as through a student generated app, is prohibited.
- **Ethical concerns should always be considered by the IRB.** Not all areas of study are appropriate for Pre-Collegiate Research. Overlooking ethical concerns can result in the project Failing to Qualify (FTQ).
- All Human participation projects that involve minors will be considered greater than minimal risk.

❖ **Non-Human Vertebrates**

- If the project involves use of non-human vertebrates the *SSEF MORTALITY REPORT* must be submitted along with all other required forms to the Regional and State SRC whether or not any deaths occurred. This form is available from the *FFFS* website at www.ssefflorida.com.
 - For the purpose of husbandry responsibilities, experimentation date is established as the moment you take possession of the subject animal.
 - Any action taken involving obtaining and setting up the experiment is included in experimental responsibilities for the vertebrate (ex. Setting up aquaria).
- For all projects using non-human vertebrates the bibliography **MUST** include an animal care reference (see Formatting Guide on (www.ssefflorida.com)
- Animals obtained from commercial sources or any captured invasive species may **NOT** be released into the environment.
- If a member of any experimental group or subgroup dies during experimentation a degreed professional with experience in necropsy must document cause of death and absence of connection to experimentation.

❖ **Potentially Hazardous Biological Agents**

- **Any project involving research of the Corona-Virus is prohibited.**
- PROJECTS INVOLVING BSL2 ORGANISMS or PROCEDURES (i.e., opening an actively growing culture or sub-culturing) **MAY NOT BE PERFORMED BY JUNIOR DIVISION RESEARCHERS**. An initial sub-culture from a known stock culture may be performed by either a designated supervisor or qualified scientist mentoring the project.
- Projects utilizing *E. coli K12* must have prior SRC approval. Students must also complete a Form 3 and Form 6A.
- Projects utilizing viruses are only permitted in the Senior Division and must be done in a Registered Research Institution.
- For **ALL** projects involving potentially hazardous biological agents, a detailed description of *aseptic techniques* and *disposal methods for media and cultures* **MUST be included in the Research Plan**. The only acceptable methods of disposal are those outlined in the *ISEF* rules or an approved use of the institution's *biohazard disposal procedure* with detailed documentation. These procedures must be thoroughly outlined in the Research Plan and cited in the Bibliography.
- For all projects using PHBAs, the bibliography **MUST** include a standard procedures reference.
- All PHBA projects must include a BSL1 or BSL2 checklist, as appropriate, (www.ssefflorida.com) unless the work is conducted at a Regulated Research Institute (RRI).
- Students conducting PHBA projects may be interviewed by the SSEF SRC prior to qualifying for participation in the SSEF.

❖ **PHBA Work Prohibited by the SSEF**

- **Any project involving research of the Corona-Virus is prohibited.**
- The use of wild-collected mushrooms is prohibited.
- Use of carbapenem-resistant Enterobacteriaceae (**CRE**), methicillin-resistant *Staphylococcus aureus* (**MRSA**), vancomycin-resistant Enterococci (**VRE**) or *Klebsiella pneumoniae* Carbapenemase (**KPC**) producing bacteria and other related resistant microbes **is prohibited**.

PHBA Work Prohibited by the SSEF *continued*

- Sub-culturing from Microbial Fuel Cells is prohibited unless work is conducted at a Regulated Research Institute (RRI).
- No projects involving emerging pathogens carried by arthropod (mosquitoes, flies, etc.) vectors are allowed.
- **Environmental water sample collections:** Because of the seriousness of the effects of exposure to water containing cyanobacteria, here are the SSEF rules regarding water collection and sampling from the field:
 - Under NO circumstances can any student make collections or samplings during an active cyanobacteria bloom.
 - Junior Division participants – samples may be collected by the designated supervisor, tested by the student and **discarded within 24** hours of collection.
 - Senior division participants – may collect water samples, test water samples and **discard them within 24** hours of collection.
 - Senior division participants may only conduct research on cyanobacteria past the 24 hour limitation if carried out at a Registered Research Institution (RRI).
- **Experimentation Involving Cyanobacteria:**
 - Junior Division participants may NOT carry experimentation on cyanobacteria after the aforementioned initial testing.
 - Senior Division participants may only conduct research on cyanobacteria past the 24 hour limitation if carried out at a Registered Research Institution (RRI).

❖ Use of Hazardous Chemicals, Activities, or Devices

- Projects involving the use of *hazardous chemicals, activities, or devices* **MUST** be reviewed by the local SRC **prior** to experimentation.
- Projects involving water-based or near-water venues including but not limited to operation or passage in a water-craft must submit Form 3.
- Projects involving the use of any chemicals with a National Fire Protection Association (NFPA) ranking of 2 or higher must submit a Form 3.
- If the chemicals being used are regulated by a state agency, documented permission and knowledge of legal requirements must be submitted with project paperwork (ex. pesticides, fertilizer, petrochemical disposal, etc.).
- Projects involving the use of any projectile devices must be supervised by a qualified Designated Supervisor.
 - Projects involving the use of fire arms must be conducted on a range supervised by certified range officer.
 - Range parameters must be described in research plan.
- Projects involving the use of controlled substances must be reviewed by an SRC prior to experimentation.
- Projects using devices or chemicals for Vaping, such as Juuls, etc. are prohibited.
- Projects involving the use of CBD oil or Hemp oil are only permitted in the Senior Division and must be done in a Registered Research Institution.

❖ **Use of Hazardous Chemicals, Activities, or Devices** *continued*

- Projects involving laser light (in the visible range OR above/ below) must include the following:
 1. emission wavelength AND wattage (mW) of all lasers used
 2. class of all lasers used
 3. manufacturer, model name and number of all lasers used
 4. any amplification or focusing techniques used for ANY part of the project involving laser light
 5. a detailed description of the environment in which the experiment was performed that specifically addresses:
 - a. eye safety, with explanation of rationale for the level of safety used
 - b. any shielding of laser equipment, including safety of power sources
 - c. the removal or covering of all reflective surfaces in environment
 - d. the containment of light within a specific and controlled area, such as all windows and doors are covered
 6. a citation for the eye-safety of the laser, such as <http://www.lasersafetyfacts.com/laserclasses.html>

❖ **Use of Drones**

- All unmanned remote operated aircraft, subsequently referred to as drones, must adhere to [Florida State Statute 934.50](#) as well as all local and ISEF rules on such craft. If these vehicles are used in a research project, documentation of local and state requirements must be included with other project protocols.
- If the drone flight path is over private property, permission from the property owner must be secured and documented.
- Drones must be registered with the FAA at registermyuas.faa.gov.
- A description of the safe environment in which the drone is operated must be included in the experimental procedures.
- All drone flights require presence of the Designated Supervisor.
- Drones cannot be operated over state parks, airports, or military installations without express written consent of a supervisor of said facility. This includes any form of data collection and/or payload delivery or retrieval.

❖ **Collection of Organisms or Artifacts**

- Any project involving collection of protected/regulated organisms whether plants or animals, **MUST** include documentation from appropriate governmental agencies in their original paperwork submission to the SRC. Collection of aquatic animals or marine plants should be made under supervision of a holder of the state's Educator's Aquatic Collection Permit.

Collection of Organisms or Artifacts *continued*

- Students planning to conduct research involving “listed” invasive plants (any plant found on the chart at <http://www.fleppc.org/list/list.htm> that has ANY letter under the “gov list” column) MUST have or be working under a permit issued by the FDACS Division of Plant Industry.
 - Appropriate disposal methods for these plants MUST be listed in the research plan. Aquatic plants should be frozen for at least 24 hours or dried completely before being disposed of in the household garbage.
 - Other invasive plants should be sealed in plastic bags before being disposed of in the household garbage.
 - **NEVER** compost or dispose of invasive plants with landscaping waste.
- Precautions must be taken and documented (**Form 3**) when collecting plants due to potential toxicity. An explanation of precautions to be taken and a potential treatment plan must be outlined in the student’s procedures.
- Non-native animals **MUST NOT** be released, even if they were caught in the wild. BEFORE starting a project involving non-native animals (example - Cuban tree frogs), contact the Florida Fish and Wildlife Conservation Commission for appropriate disposal techniques (remember, student researchers cannot euthanize vertebrates).
- Organisms subjected to experimental “treatments” may not be released into the environment after experimentation.
- It is illegal to dig for artifacts without the landowner’s permission. On state-owned and controlled lands, including sovereignty-submerged lands, a **permit** from the **Division of Historical Resources (DHR), Bureau of Archaeological Research is required** to conduct archeological investigations.
- Digging for artifacts on state lands without a permit from DHR is a third degree felony (*Sections 267.061 and 267.12-13, Florida Statutes, and Chapter 1A-32, Florida Administrative Code.*)
- Digging on Federal land also requires a permit and illegal digging is a felony offense. Contact the federal land manager for more information on obtaining permission to dig on federal lands.
- Projects involving archeological or paleontological excavations **MUST** be accompanied by appropriate documentation from the state organization or governmental agency responsible for oversight of such procedures. This documentation must be submitted with other required paperwork to the SRC.

Display Items

There shall be no acknowledgements on the project display.

There shall be no Brand Names or Commercial Logos on the Project Display. These may be in the Research Paper or Log Book.

There may a student generated logo used one time anywhere in the project display.

THE DEATH OF COMMON SENSE – When we are reviewing projects during the pre-SSEF SRC we often ask “Did any adult **really** read this before approving the procedure?” Please make sure the projects allowed to enter your fairs adhere to the ISEF and SSEF rules. Please don’t send us incomplete paperwork or a project that has not been critically reviewed before submission for entry in the SSEF. We are more than happy to assist you with questions before the spring SSEF SRC!

CONTACT RESOURCES:

Animal specimen collection: Melissa Tucker, Fla. Fish and Wildlife Conservation Commission (850) 617 – 6070 melissa.tucker@myfwc.com

Research on state forest lands: Brian Camposano , (850) 681 -5890
State Dept. of Agriculture, brian.camposano@freshfromflorida.com

Invasive plant permit: Dr. Patti Anderson, (352) 395-4701
Florida Department of Ag and Consumer Services, Division of Plant Industry
patti.anderson@freshfromflorida.com
<http://www.freshfromflorida.com/Divisions-Offices/Plant-Industry/Business-Services/Plant-Pest-Permits/Noxious-Weed-Permit>

Paleontological collection: Florida Fossil Permit <http://www.flmnh.ufl.edu/vertpaleo/vppermit.htm>

Archaeological collection: Dr. Sam Wilford, Florida Department of State
sam.wilford@dos.myflorida.com

Florida’s Unmarked Burial Law

<http://dos.myflorida.com/historical/archaeology/human-remains/abandoned-cemeteries/what-are-the-applicable-laws-and-regulations/>

Marine fishing regulations (covers collection of fish, invertebrates, algae and sea grasses):
<http://www.myfwc.com/fishing/saltwater/regulations/>

Freshwater fishing regulations: <http://www.myfwc.com/fishing/freshwater/regulations/>

Invasive plant list: <http://www.fleppc.org/list/list.htm>

NOTE: Any plant on this list that has ANY letter under the “gov list” column may not be possessed, transported, cultured etc. without a permit from the FDACS Division of Plant Industry (see contact under “Invasive plant permit”.)

Non-native animal lists: <http://myfwc.com/wildlifehabitats/nonnatives/invasive-species/>

Educator Aquatic Specimen Collecting permit: <http://fmsea.org/events/ascw>

SSEF of Florida Scientific Review Committee

Any SRC Team member below will be glad to assist you with questions

Chairperson:

Sharon Suits shsuits@icloud.com (863) 763-4245 or (863) 610-2054

Members:

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