Secondary Coordinator Meeting August 30, 2018

For all projects: Students MUST have – and TEACHERS are responsible for checking...

- Form 1 – Checklist for Adult Sponsor
- Form 1A – Student Checklist
- Research Plan (templates on edfoundationirc.org are recommended)
- Form 1B – Approval Form
- Form 3 – Risk Assessment – the more information, the better

Additional forms are required for ***human test subjects***, other ***vertebrates*** (including a Mortality Report, whether or not deaths occurred), ***bacteria, tissues, potentially hazardous biological*** or ***some*** *chemical items*, continuations, and work in a lab/with a researcher (See SSEF and ISEF rules for more information). Projects involving above listed subject areas in italics require prior-approval and need to be reviewed by our Safety Review Committee.

Make sure to submit prior approval folders to the Education Foundation mailbox at the district office on or before the committee review dates. Folders can also be dropped off to Lisa Presti at Gifford Middle School.

Highlights from the SSEF meeting...

- No BSL-2 projects for junior division students.
- Continuation projects must be different – we can call a representative from the SSEF review committee to verify eligibility.
- As soon as vertebrates are in the student's possession, the project has started.
- Any vertebrate deaths must be investigated by a veterinarian or equally qualified scientist that can verify the death was not caused by anything related to the student's investigation.
- Fish projects are notorious for unexplainable deaths.
- No expedited reviews for human subjects (SSEF rule)
- Human projects
  - If the question is "does this work" as in an engineering design, no IRB approval is needed.
  - If the human is the test subject, is giving an opinion about how something works, is anyone other than the researcher using a device or simply participating in a survey, IRB review is needed and risk assessment is necessary, even for minimal risk.
- No brand names are allowed in the project title, in the abstract, or on the board (brand names or logos must be blacked out on pictures, except for those on measuring equipment, such as Ohaus balances, etc.)
- No wild collection of algae blooms or emerging pathogens carried by mosquitoes, flies, etc. for junior division students.
- Senior students can research some types of algae and pathogens in a Regulated Research Institution with a qualified scientist, but prior approval is required.
- No projectiles or things falling from drones.
- Written permission is required for sample collection on private property and managed public lands.
- Water sampling is OK with Form 3, making sure to state safety precautions such as a life jacket, adult supervision, closed toe shoes, etc.
- Electronic logbooks are permitted, but considerations include computer viruses removing data, incorrect date stamps and judges who may be unfamiliar with this new type of format. Also, there is no internet access, so any files need to be downloaded to the device ahead of time.

SSEF rules are more stringent than ISEF in some cases, so please read through those to insure all criteria have been met.

Our goal is to provide our students with the opportunity to compete against other students at the state and international level. Ultimately, the State Safety Review Committee can disqualify a project for missing or incomplete paperwork or lack of prior approval when it was needed. The purpose of all the paperwork is to ensure student safety as well as any human or other vertebrate test subjects they may use in their experiments.

Please make sure that as your school's Science Fair Coordinator you have read the ISEF rules and the SSEF rules supplement. They are available on the Education Foundation website: www.edfoundationirc.org under the "Science Fair" tab. Templates for the research plan as well as other forms and resources can also be found on that website.

All projects must have forms 1, 1A (including a complete research plan), 1B and 3 filled out properly and signed and dated PRIOR to experimentation. This is for every project, regardless of whether or not the student competes in any fair.

- Form 1A, questions 7 and 9 need be completed AFTER experimentation to ensure proper dates and locations.
- Form 3 must be signed by the supervising adult, which in many cases will be the parent. All projects have some level of risk, even if it is minimal. Remind students to look for potential hazards. Include all tools, associated risks, and ways to avoid injury.

Safety is the number one priority of the SRC. We need to be sure that students are discussing projects with their teachers and/or advisors throughout the process to ensure guidelines are being followed. If a student needs to change procedures mid-way through their project, the teacher or advisor will need to be notified to verify no additional forms are needed. Sometimes a project will need to go through the IRRSEF SRC in the middle of an experiment if the procedures have changed to involve additional approval requirements. Make sure to add a summary of changes to the research plan.

Continuation projects require Form 7 and it is recommended that these projects be submitted to the Secondary Science Fair Coordinator to ensure they qualify as a continuation. If the student has been working on this project for more than two years, use as many Form 7's as necessary.

Projects involving humans, vertebrates and biological agents require additional forms, and must go through the scientific review process prior to the start of experimentation.

- Human projects require form 4 and Informed Consent form prior to experimentation, and at the end of experimentation will require the Verification of Informed Consent form and a redacted copy of an Informed Consent form according to ISEF rules.
- Vertebrate studies will require form 5A prior to experimentation and must include a Mortality report at the end of the experiment.
- Biological and tissue studies also require additional forms, 6A or 6B, depending on the biological source. Studies involving cultures require BSL-1 or BSL-2 surveys completed prior to experimentation. Junior level students may only work in a BSL-1 certified lab, senior level students may complete studies in a BSL-2 lab. **Absolutely no culturing of bacteria may be completed at home, or in a non-certified BSL-1 classroom.** When working with cultures, once the plate is opened (except for disposal) it becomes a BSL-2 project and is only permitted at the senior level.

Students working with biological agents and chemicals must include proper safety and disposal methods (including aseptic techniques) *both in their research plan and on Form 3*. Students working with chemicals need to review the MSDS for each chemical, be familiar with the hazards, and will need to cite the MSDS in their bibliography (note: at the state level, a minimum of 5 sources are required in the bibliography, one of which is the Intel Rules).

After experimentation, the abstract needs to be completed on the Intel Abstract Form and must be signed and dated by the student.

Exceptional projects exhibit sound science and good statistical analysis. Students should strive to control their variables when applicable and be able to explain not only the research behind their project, but the project's impact in real-world applications.