The Charles Duggan

Long Island Science and Engineering Fair 2020

35th Year of **Regional Affiliation**
with the

Society for Science and the Public's
International Science and Engineering Fair

Regional Rules, Guidelines and Registration

LISEF Contact Information	**Mailing Address**
www.lisef.org President@lisef.org **(631) 427-6428**	**LI Science and Engineering Fair, Inc.** **998 Old Country Road STE C PMB 164** **Plainview, NY 11803**

LISEF Fair Director: **Angela Lukaszewski**

Regional Rules, Guidelines and Registration for
the Long Island Science and Engineering Fair

2019 - 2020

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Important Websites

- www.lisef.org
- The International Rules and Guidelines for Science Fairs is available on the Society for Science and the Public website: https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/2020/Rules/Book.pdf
- The ISEF Rules Wizard (required for all projects prior to experimentation/data collection): https://ruleswizard.societyforscience.org/
- Interactive ISEF 2020 Forms https://student.societyforscience.org/intel-isef-forms
- ISEF 2020 Subject Specific Guidelines
    - Humans: https://student.societyforscience.org/human-participants
    - Vertebrates: https://student.societyforscience.org/vertebrate-animals
    - PHBAs: https://student.societyforscience.org/Potentially-Hazardous-Biological-Agents
    - Hazardous: https://student.societyforscience.org/hazardous-chemicals-activities-or-devices
- The ISEF Human Subject Risk Assessment Guide: https://student.societyforscience.org/human-participants
- Online Survey Consent Procedures: https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/Resources/Online-Survey-Consent-Procedures.pdf
- ISEF Guidelines for Biosafety Level 1 Self Assessment Checklist: https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/Resources/BSL1-Checklist.pdf
- The ISEF Self-Assessment for Bio-Safety Level 2: https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/Resources/BSL2-Checklist.pdf
- ISEF SRC and IRB Guidelines: https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/2016/Fair-Network/Operational-Guidelines.pdf

Important Dates

Round 1	Round 2
Wednesday, February 5, 2020	Thursday, March 12, 2020
8 A.M. - 4 P.M.	8 A.M. - 4 P.M.

Crest Hollow Country Club
8325 Jericho Turnpike, Woodbury, NY 11797 (516) 692-8000

August 30, 2019 (Friday) – Maximum School Allocation posted

October 11, 2019 (Friday) – Email deadline to send completed Commitment Agreement to treasurer@lisef.org

November 1, 2019 (Friday) – Liaison and Student/Project Registration Opens on Website

December 2, 2019 (Monday) 8:00 P.M. - Technical support deadline for questions to webmanager@lisef.org. Any queries after this time will not be answered.

December 3, 2019 (Tuesday) 8:00 P.M. – Online Registration Completion Deadline for Students (missing this deadline automatically disqualifies the project)

December 5, 2019 (Thursday) 8:00 P.M. – Deadline for School Liaison to Certify Accuracy of Student's Registration (Certification cannot exceed Initial School Allocation. Up to two additional projects can be certified for the lottery – see Website for further details).

December 12, 2019 (Thursday) – Posting of Final School Allocation number, including lottery awards for each school

December 16, 2019 (Monday) – LISEF, Inc. Invoices will be mailed by this date (please note that the JV Fair has later close of registration and invoicing dates)

January 22, 2020 (Wednesday) – Receipt of LISEF Payment Deadline

January 29, 2020 (Wednesday) 8:00 P.M. – Last Day to Edit Abstract

January 29, 2020 (Thursday) 8:00 P.M. – Deadline for all project PDF Uploads (as one PDF file) of ALL paperwork, including, in the following order, Wizard, Abstract, ISEF forms (with Research Plan/Post Summary), Research Paper and digital file of project board (missing this deadline automatically fails to qualify the project)

February 5, 2020 (Wednesday) – LISEF Round 1

March 12, 2020 (Thursday) – LISEF Round 2 & Awards Ceremony

March 17, 2020 (Tuesday) – Mandatory ISEF Finalist and Chaperone Meeting

April 21, 2020 (Tuesday) – Mandatory ISEF Practice Sessions

Mission Statement

"Our mission is to promote excellence in scientific inquiry and discovery in Long Island schools."

Ethics Statement

The Long Island Science and Engineering Fair Inc. is an affiliate of the International Science and Engineering Fair (ISEF), and as such upholds the following ISEF Ethics Statement (ISEF Guidelines 2020, pgs. 4-5):

ISEF 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 research. The project should reflect independent research done by the student(s), and represents 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 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(s) 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.

General Eligibility for LISEF

- Each project must satisfy all of the ISEF rules and LISEF rules that apply.
- Each school must have a school liaison.
- Each school must submit a signed commitment agreement, emailed by October 11, 2019. See details in the Commitment Agreement section of this document, p. 14,or the LISEF website.

- A school liaison can certify up to their initial project allocation, and up to two additional projects for the lottery.
- Each student may enter only one project that covers research done over a maximum of 12 continuous months between January 2019 and May 2020.
- Student must be enrolled in Grade 9 – 12 and less than 20 years of age on 1/1/2020.
- **All** students (including all members of a team) must be affiliated with a Nassau or Suffolk County educational institution (a home schooled individual/team should follow the instructions contained in this document). Team members may be enrolled in different Nassau/Suffolk schools.
- A team may consist of 2 or 3 members.
- Every registered student and every teacher that attends any of the three LISEF affiliated fairs must complete a LISEF Media Release Form: https://www.lisef.org/files/pdfs/media_release_form.pdf
- All individuals and team members MUST attend a school that has submitted a Commitment Agreement and that has a school liaison (See Home Schooled Students Additional Requirements).
- English is the official language of ISEF and LISEF. Student project boards and abstracts and **all paperwork must be in English**. *If applicable, this includes a translated copy of the IRB Approval and translated copy of the Consent Form.*

Home Schooled Students Additional Requirements
- The parent/guardian of the student wishing to present research at any of LISEF Inc.'s three fairs will act as the liaison.
- Once the initial page of online registration is completed with contact information, the registration process is automatically suspended until Proof of Home Schooling is received, at which time you will be notified and your registration may be completed. It is essential that obtaining Proof of Homeschooling be completed in a timely manner to facilitate completion of registration by the close of registration deadline.
- Proof of Home Schooling: The parent/guardian acting as the liaison must request that the Nassau or Suffolk school district in their community have their Pupil Personnel Office send a copy of the letter in which the school district approved the student's Individual Home Instruction Plan (IHIP) for the current school year to LISEF; this letter and/or an attachment made by the school district must define the grade level of the course of study. A copy from the parent is not sufficient.
- The parent pays the required fees per child that is a member of a registered project; the student cannot compete if this is not received by the published deadline. The parent should use the Direct Payment Form although it is designed for schools; write 'home school' where asked for School Name, parent information everywhere else, except we do need the name of the school district in which you reside.
- The home-schooled student may enter only one project that covers research done over a maximum of 12 continuous months between January 2019 and May 2020.
- The home-schooled student's project must satisfy all of the ISEF rules and LISEF rules that apply and complete all of the appropriate ISEF forms.
- If the student's project is done in a Registered Research Institution, the LISEF SRC/IRB will sign any of the forms that require a local SRC signature once the student has completed their research as long as proof that all of the required prior reviews were conducted at the university. If the student's project is done in any place other than a Registered Research Institution, the student must seek prior reviews from the LISEF SRC/IRB.

- Home-schooled projects will not affect the Maximum Allocation granted to any school in that student's community.
- Since most students enrolled in a public/private school on Long Island that participates in LISEF, compete internally for the right to present at LISEF fairs, LISEF, Inc. expects that projects submitted to its fairs are of a high caliber and reserve the right to deny participation to a home-schooled project that is below LISEF, Inc.'s standards. LISEF, Inc. will review the submitted Research Plan and Abstract to determine if the project is eligible to compete. Although a project is unable to compete in one fair, it might be deemed eligible for one of the other LISEF affiliated fairs. If a project is ineligible for a fair, and a fee has been paid, that fee is refundable.
- The home-schooled student and parent that attend any of the three fairs must complete a <u>LISEF Media Release Form</u>: https://www.lisef.org/files/pdfs/media_release_form.pdf

<u>LISEF Additional Rules and Guidelines</u>

In the interest of safety, fairness and ethics, a Regional Affiliated Fair can be more restrictive than the ISEF Rules and Guidelines.

Please see additional rules below, now organized by topic; new or updated items are contained within the appropriate topic:

<u>*GENERAL:*</u>
- If at any time, LISEF, Inc. becomes aware of an egregious ethics violation on either the part of the student(s) or adult sponsor, the project will fail to qualify and, additionally, LISEF may impose a penalty, which may include, but is not limited to a school wide penalty.
- The liaison must canvas their students to determine if a team project is a split-school project and contact the other school to determine which school is including that project in their school's commitment. Both schools must submit a commitment agreement which must be emailed by October 11, 2019. Each school is responsible for payment for their student(s) that are a part of a split-school team project.
- Each school is required to have a district employee as a chaperone on premises for their students *<u>AT ALL TIMES</u>* during the LISEF competition and awards ceremony, and complete all duties assigned. If chaperone coverage for students from a particular school is not provided at all times throughout the event, a letter will be sent to the school's designated chaperone and a copy will be sent to that person's immediate supervisor.
- All individuals/team members must present at LISEF Round 1 (and Round 2 if applicable), unless extenuating circumstances are approved by the board prior to the fair, to be eligible for awards. Other competitions and/or school/sporting events, etc. are *<u>not</u>* extenuating circumstances. *The LISEF Board does not consider any circumstance where a <u>CHOICE</u> is involved as an extenuating circumstance.*
- All participants must dress and behave with a reasonable level of decorum. LISEF, Inc. reserves the right to immediately fail to qualify a project where the participant(s) are a distraction to others and to remove them from the competition floor for the remaining time of the competition.
  - No food from delivery outside venues can be brought into the Crest Hollow CC without prior permission of the LISEF President.

- All photography/videography on behalf of LISEF will be done by the LISEF official photographer, identified by a badge. No liaison, adult sponsor, or student is to take photos or videos of students that are not from their participating school.
- A competing individual or team member not present during the awards ceremony, without prior clearance from the LISEF President, forfeits their opportunity for an award including the trip to ISEF. *Note, that if one member of a team is absent without permission from the awards ceremony, the entire team becomes ineligible for ISEF as the ISEF Guidelines do not permit any change to the team membership after once competing.*

ABSTRACT:
- A 5 point deduction will be made from each judge's raw score at Round 1 for the lack of a complete Abstract in the Online Registration database by January 29, 2020 (see ISEF Guidelines 2020, p. 29: an abstract must include the purpose of the experiment, procedure, data, and conclusions and *represent only the work of the student(s)*).
- **NEW:** A 5 point deduction will be made from each judge's raw score at Round 2 where a comprehensive Abstract (see Complete ISEF Rules & Guidelines 2020, Page 29) is not included in the PDF Upload due by January 29, 2019.

RESEARCH PLAN/PROJECT SUMMARY INSTRUCTIONS:
- Submit one <u>document</u>, the Research Plan/Post Summary, as described below:
  - *Research Plan written prior to experimentation (future tense)*
  - *Addendum (present/past tense)***:**
    - *If no changes are made from the original research plan, simply state that no changes were made at the end of the research plan.*
    - *If changes (additions or deletions) are made during the research, add these changes in the addendum, recognizing that some changes may require returning to the IRB or SRC for appropriate reviews and approvals.*
    - Please start the Addendum on a separate page.
- **NEW:** A 5 point deduction will be made from each judge's raw score at Round 2 where a comprehensive appropriate Research Plan (see Complete ISEF Rules & Guidelines 2020, Page 32) is not included in the PDF Upload due by January 29, 2019.
  - ***Recommendations:***
  - Students should use headings and bullets throughout their research plan.
  - The subject-specific guidelines (items 1-4 on the ISEF Research Plan/Post Summary Instructions) should be *embedded* within the Procedures section (item C) of the Research Plan.
  - Note: These housekeeping recommendations make it easier for the reviewer to review your paperwork.

RESEARCH PAPER:
- A 5 point penalty will be subtracted from each judge's raw score at Round 2 for the lack of submission or an incomplete submission of a research paper in the single PDF upload as described below, or as in a primary research publication in a format consistent with your discipline:

REQUIRED	RECOMMENDED
● Introduction section ● Materials and Methods ● Results (any representation of data, findings or mathematical proofs) ● Discussion and conclusions ● References	● A title page stating the Title of the project, the student's name(s) and school name(s) ● Pages have to be numbered

PROJECT BOARD:

- **NEW:** A 5 point penalty will be subtracted from each judge's raw score at Round 2 for the lack of submission or an incomplete submission of the project display board in the single PDF upload as described below.

CONTINUATIONS AND TEAMS:

- **Clarification:** A project in which the student(s) learned techniques and equipment in one year, and did experimentation in the second year is considered a continuation.
- If AT ANY TIME, LISEF, Inc. becomes aware of a change of membership of a project presented at a prior competition than its membership registered for the LISEF competition, LISEF will impose a 50% penalty of the initial allocation for the following school year for each school involved in the infraction. In addition, the student(s) involved will fail to qualify, and in the event that the LISEF competition has already taken place, then that project and student(s) will be stripped of all recognition and awards. Additionally, the Principal and Superintendent of the school(s) involved will be sent a letter informing them that their initial allocation of LISEF registrations is being reduced by 50% the following year because of an ethics violation.
- Team membership cannot be changed during a given research year unless there are extenuating circumstances; the *LISEF Regional SRC* must approve of any change in team membership during the 12-months after the stated start date for the project. This ruling supersedes the ISEF Rules and Guidelines. Keep in mind that once a project has competed in any science fair at any level, no changes are allowed even in extenuating circumstances.

BSL:

- All projects using BSL-2 classified biological agents in a high school lab must submit a copy of their high school's BSL-2 certification from a government agency. The website below will describe in detail the levels of biological containment. https://www.cdc.gov/training/QuickLearns/biosafety/

VERTEBRATES:

- The LISEF SRC serves as an approval committee for vertebrate projects performed in a school, home or field. All approvals for these types of studies must be approved prior to experimentation by the LISEF SRC.

HUMAN PARTICIPANT PROJECTS:
- All published instruments that are not in the public domain must be administered, scored and interpreted by a Qualified Scientist as required by the instrument publisher. Any and all use and distribution of the test must be in accordance with the publisher's requirements, including procurement of legal copies of the instrument. All approvals to use the publisher's instrument must be attached to the Research Plan at the time of IRB review. *Please note*, because a published instrument is readily available on the internet does not mean that it is legitimately in the public domain. If an instrument being used is one legitimately in the public domain, provide proof to that effect. If the student(s) states that they have modified a published instrument, the student(s) must provide a copy of the original instrument or a link to it.
- Human Participants Form 4 additional requirement: An additional signature from the local IRB chair is required which indicates the review and approval of ALL stimuli/material (visual, auditory, written, mechanical, etc.) to which human participants will be exposed. A statement similar to our sample below should be printed on the school letterhead and submitted, along with all such stimuli described above, to the local IRB; this said document should be signed and dated by the local IRB Chair.
    - Our IRB has seen/heard and reviewed the stimuli/material (visual, auditory, written, mechanical, etc.) to which human participants will be exposed for this project and which are listed below:*(list all stimuli/material)*
- Surveys to collect data for LISEF participation may not be distributed to students enrolled in a K-12 class (public or private school) where they receive any kind of evaluation OR where attendance is taken. This rule is designed to maximize the voluntary assent of the participants. It will apply to ALL projects that require voluntary assent of human subjects.
- The 'Scripts' that are used to present a survey to potential subjects during recruiting and/or to describe informed consent must be included in the research plan under the appropriate headings.
- Any measures administered to Human Participants, including those used in pilots, that may cause physical or psychological harm must go through the IRB approval process; submit a Form 4 for the Pilot Study.
- The survey/questionnaire must be attached to the Informed Consent if Parental/Guardian permission is required by your IRB. In this instance, the CONSENT FORM must include the following statement followed by their signature and date:
    - YES NO (circle one) I have received a copy of any survey or questionnaire to be used in the research. *(If the Human Informed Consent Form from the ISEF Guidelines is used, add the above statement to the back and include an * on the front that directs parents to the reverse side.)*

QUALIFIED SCIENTIST:
- The LISEF Regional SRC must give approval of any individual, not at an RRI, as the qualified scientist prior to the start of experimentation, if one is required (usually Human Participants,non-human Vertebrates, and PHBAs.) *In a closed session at each monthly meeting our board of trustees will determine approval status of any open Qualified Scientist applications.*
- *ISEF Guidelines 2020:* A Qualified Scientist should have earned a doctoral/professional degree in a scientific discipline that relates to the student's area of research. Alternatively, the SRC may consider an individual with *extensive experience* and *expertise* in the student's area of research as a Qualified Scientist.

- Having a Bachelors or a Masters degree in a scientific discipline is not sufficient to act as a Qualified Scientist without additional experience in a professional lab. Several years as a research teacher does not constitute extensive experience in the student's *area of research*. The alternative that the ISEF guidelines mention, extensive experience and expertise, generally applies to fields where a professional degree does not exist. Each project is different and the Qualified Scientist should have significant knowledge in *the student's area of research*.
- See Qualified Scientist qualifications and responsibilities in the ISEF Guidelines 2020, page 5.

PDF UPLOADS:
- **NEW:** There is a 5 point penalty on each of the judges Round 2 raw score for lack of a proper abstract, research plan, research paper and presentation board in the PDF Upload (as per above Additional LISEF rules). The total penalty <u>will not</u> exceed 5 points on each of the judges Round 2 raw score for any combination of missing items.
- A single PDF file, no larger than 20MB, must be uploaded to the project registration page, by 8:00 p.m. on January 29, 2020.
- **NEW:** If Consent forms are required, they must be submitted in a separate PDF upload, no larger than 20MB, on the project registration page. The deadline for this submission is 8:00 P.M. on January 29, 2020.
- If the liaison elects to upload a project's PDF upload, any errors made in doing so will be treated as a student error.
- Please see page 18 for further details on required elements for the PDF upload.
- Do not submit MSDS forms as part of the single PDF upload, due January 29, 2020.
- Both the PDF Upload and consent form upload size cannot be larger than 20MB each. Be sure to check your file size before the deadline!

ISEF:
- A school is responsible for payment of the LISEF registration fee for any student from their high school who is a participant in a project entered through another school. If the student becomes an ISEF finalist, the school is required to send a district employee chaperone to ISEF *as indicated in your signed commitment agreement*.
- A school is required to send a district employee chaperone to ISEF should one of your students become a finalist *(LISEF recommends that the chaperone be a person with STEM or research teacher experience)*; this chaperone *must travel with the LISEF Group* and attend *all* ISEF and LISEF sponsored events unless the LISEF Board has granted an exemption prior to the Finalists' meeting on Tuesday, March 17, 2020 (in the event an exemption is granted, the district employee chaperone must travel with their student(s)). Finalists *and* chaperones are required to attend the mandatory meetings.
- Any project board being sent to ISEF by LISEF must fit in a box of size 53x7x30 inches; if you have a larger board, you are responsible for shipping and will receive a $30 stipend from LISEF.
- **Any exceptions to any one of the above LISEF rules can only be granted by the LISEF SRC and Board of Trustees. Please submit your request with a rationale to the LISEF SRC Committee (**src@lisef.org**) prior to proceeding with the study. If a waiver is granted, submit documentation with your paperwork.**

ISEF Rule/Guideline Changes for 2019– 2020

Please see 2020 ISEF Rules and Guidelines:
https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/2020/Rules/Book.pdf

ISEF posts a document with this year's rule changes:
https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/2020/Rules/Changes-Clarifications.pdf
For help with ISEF and LISEF Rule interpretations, contact the SRC by e-mailing src@lisef.org

Online Studies

Please see ISEF Rules for Online Studies
https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/Resources/Online-Survey-Consent-Procedures.pdf

Reasons for Fail to Qualify (FTQ) at LISEF

The following is the current list of reasons that would result in a project's failure to quality, and therefore would not be permitted to move forward in LISEF and ISEF. However, we cannot foresee every instance in which a project may fail to qualify and we reserve the right to add additional items to this list.

Eligibility:
- Student worked with a partner or team but competed as an individual, or vice versa
- Project data collection was more than 1 year in length or was too old
- Student, individual or team member, was not associated with a Nassau or Suffolk county school district
- Project display has more than one year's data (this includes replication data even if replication done in current year)

Scientific Misconduct:
- Plagiarism
- Student presents mentor's research as his/her own
- Falsification of data
- Misrepresentation of team membership
- Reverting to previously disapproved version of display
- Any ethical misconduct
- **Lack of adherence to ISEF Ethics Statement**

Vertebrate Studies:
- Missing IACUC preapproval for vertebrate animal studies
- Studies done at home/school/field that should have been done at a regulated research institution
- Induced toxicity studies
- Predator/vertebrate prey experiments
- Studies where student performed euthanasia on a vertebrate animal
- Studies with an animal death in any group or subgroup due to experimental procedures of the student or *of any other person using the same vertebrate animals*
- Studies where animals have a weight loss greater than or equal to 15%
- Studies where there was an inappropriate restriction of water or food
- Studies treated as embryonic studies that were actually vertebrate studies
- Projects that cause more than momentary or slight pain or distress to vertebrate animals, even if caused by a *person using the same vertebrate animal,* unless <u>*approved*</u> anesthetics, analgesics and/or tranquilizers are used

Human Participant Studies
- Missing prior IRB approval for human participant studies and pilots of same studies. *This includes submitting a signed Form 4 that lacks any IRB determinations.*
- Studies that under-evaluated risk and did not have a Qualified Scientist
- Studies where the IRB required written documentation of consents which were not obtained
- Student administration, scoring and/or interpretation of a published instrument without the required qualifications as specified by the instrument publisher
- Testing a medical intervention device in a place other than RRI

Potentially Hazardous Biological Agents (PHBAs)
- Microorganisms were cultured at home
- Certification for a high school BSL-2 lab not obtained
- Violation of BSL-1 protocol of unknown microorganisms which require keeping plates sealed
- BSL-2 studies done in a BSL-1 lab
- Genome editing studies not done at a RRI

Other Reasons for FTQ
- **Lack of adherence to ISEF Ethics Statement**
- Hazardous Chemical Studies conducted at home or in the field without a LISEF SRC pre-approved Designated Supervisor
- continuation study which was merely a repeat of a previous project conducted by any student
- Failure to submit the Project PDF File Upload by the published deadline

Categories

- During registration, each individual or team leader will choose one of the ISEF categories offered that best fits their project and a sub-category within the category. Categories and sub-categories are listed on page 28 of the 2020 ISEF Rules & Guidelines; however, to see descriptions of the sub-categories, you should visit the ISEF website: http://www.societyforscience.org/isef/project_categories
- LISEF categories will be determined after the close of LISEF registration. Our intent is to form LISEF categories based on the distribution of registration in the ISEF sub-categories. The determination of the LISEF categories will be made at the December LISEF monthly meeting, which is open to the public. New categories will be formed to include all of the ISEF subcategories for which projects are registered and some categories may be split to form new categories.

Commitment Agreement

- The commitment agreement form must be completed and emailed to treasurer@lisef.org no later than Friday, October 11, 2019. Please name the scanned file "'School Name' LISEF Agreement 2020".
- **Schools that do not submit a Commitment Agreement Form emailed by October 11th will not be allowed to participate in LISEF 2020.**
- *School Commitment Process for LISEF 2020:*
    1. *This Commitment Letter informs the district administrator and liaison that they have been given an Initial Project Allocation (IPA) for each individual high school in their district, and we include a Commitment Agreement. The IPA's can be found on the LISEF website www.lisef.org*
    2. *The deadline for student project registration is December 3rd. The deadline for liaisons to certify projects is December 5th. When project certification occurs, your liaison can indicate up to three additional projects that they would like considered in our potential lottery.*
    3. *NEW: The Commitment Agreement states that your district is responsible for payment for the number of project registrations your liaison CERTIFIES by December 5th, including any lottery slots awarded, at $220 per student registered*
    4. *This year the Commitment Agreement MUST be emailed by October Friday, October 11, 2019 to Treasurer@LISEF.org. In addition, the original signed copy must be mailed within one week to LI Science & Engineering Fair, Inc., 998 Old Country RD STE C PMB 164, Plainview, NY 11803.*
    5. *The number of projects you certify can be less than your school's IPA; you will not be penalized.*
    6. *Once all districts have certified their selected projects, if the minimum number of 430 projects has not been met, and if there are additional requests made by schools during certification (up to three per school), a lottery for allocation of those spots will take place. Each school with additional requests will have one entry into the first drawing. Upon the event that our 430-project minimum is still not met once the first drawing is complete, an additional lottery will be conducted and each school with remaining requests will have only one entry per round until 430 projects is reached. The final project allocation numbers, including the lottery awards, will be posted on our website, www.lisef.org by December 12, 2019.*
    7. *Once the final allocation is posted, this is considered your school's commitment, and your district is responsible for payment of your commitment to these projects.*
- **Payment must be received no later than Wednesday, January 22, 2020.**

- By signing the Commitment Agreement, your district is agreeing to pay for each student participating in the projects certified by the school liaison, plus any additional lottery allotments, at $220 per student registered, including students enrolled in your school that are members of a team project registered through another school. Note that projects may include a maximum of three students, and payment for this project would equal $660, as the fee is $220/student. If a school does not meet their financial commitment, the school's allotment will be reduced by 50% for the following year and only increased by one slot each subsequent year until the original IPA is reached. **While this commitment agreement only applies to the LISEF competition (not the JV or Middle School fairs), schools are subject to penalties on their registration numbers if the district fails to pay for every student registered in any of the LISEF fairs; penalties apply to the school and Fairs in which payment falls short of the invoice amount.**
- In addition, you are being asked to sign a commitment that you will send a district employee chaperone to ISEF should one of your students become a finalist. *We recommend that the chaperone be a person with STEM or research teacher experience.* This chaperone **must travel with the LISEF Group** and attend **all** ISEF and LISEF sponsored events unless the LISEF Board has granted an exemption prior to the Finalists' meeting on Tuesday, March 17, 2020 (in the event an exemption is granted, the district employee chaperone must still travel with their student(s)). Finalists and chaperones are required to attend the mandatory meetings. Based on previous years' expenses, the expected cost for a chaperone is anticipated to be $2,600 - $3,600.
- **Additional Commitment Agreement Information:** The IPA for each school may vary from year to year for a variety of reasons. The IPA formula for LISEF 2020 is based upon three factors: the schools' previous year's IPA, the schools' previous year's Final Project Allocation and the final number of projects that were both registered and certified:
    - Schools may request fewer slots than their IPA for this school year, without having their IPA reduced next year.
    - For a school whose IPA was 8 projects or more for LISEF 2019, this year's IPA remains the same.
    - For a school whose IPA was 7 projects or less for LISEF 2019 and committed to and used their entire IPA, plus all awarded lottery slots; the LISEF 2020 IPA will be increased by 1.
    - A school that did not use their entire IPA of 7 projects or less for LISEF 2019 will have the same IPA for LISEF 2020. No increase in their IPA will take place.
    - A new school district (not listed on the LISEF 2020 IPA page) is allowed 2 IPA's.
    - The IPA cap remains at 11 projects.
    - If a school does not meet their financial commitment, the school's allotment will be reduced by 50% for the following year and only increased by one slot each subsequent year until the original IPA is reached.

Liaison's School Registration & Responsibilities
NOTE: Steps 1- 6 below must be completed before the students can begin Project Registration.

1. One liaison is required for EACH LISEF school. A person can be a liaison for more than one school, but will need to complete all forms, including the commitment agreement form, and online registration for those schools. The liaison is responsible for completion of ALL forms submitted by the school and

should be available by cell or regular phone on the SRC Review Day (Saturday, February 29, 2020). The SRC Interview date is Thursday, March 5, 2020.

NEW: If this person is the same person for more than one LISEF sponsored fair, they can register for all at the same time, and use the same log in (e-mail) and password for each fair (see website for more details).

2. If a liaison is registering more than one school for the LISEF fair, only one login is required, where multiple schools can be registered.

3. A liaison can begin the online registration of the school as of November 1, 2019 if the school has completed the 2020 commitment agreement, and it was emailed no later than October 11, 2019.

4. To complete the online registration for your school, you will need the following information:
   a. Liaison's Name and contact information (*We encourage submission of a non-school e-mail since these often are blocked for our mass emailing. If you choose to use a school email, be sure to tell your IT department to whitelist lisef.org*).
   b. School's Name and Address
   c. Principal's name and email address
   d. Name and contact information, including address, phone and e-mail, of the person who should receive the invoice for the school's registrants for LISEF. This person is the one who will be responsible for submitting a Purchase Order to the district's business office.
   e. Indicate whether your school will be paying the invoice by Check or through BOCES. This should be discussed with the appropriate parties prior to entering this information.
   f. Phone number and name of individual in Accounts Payable in your District Billing Office.
   g. SRC Chair name and email address
   h. IRB Chair name and email address

5. Please enter the area(s) in which the liaison will be able to assist with the LISEF Fairs, as we request help from liaisons on fair day.

6. Liaison must provide the name(s) and email(s) of all Adult Sponsors in the school so that the Adult Sponsor can register. *The Adult Sponsor(s) will be sent an email to the provided email address with registration instructions.*

7. Once the school registration is complete, and students start registrations, the liaison can login and click the Student/Project Manager button from their dashboard. Each project may be viewed by selecting "Details." All project information can be viewed, with the options to move the project to the JV Fair, Delete the project, and can see if the Project PDF Upload and Consent Forms Upload has been completed. **If they have been completed there will be a link to "Download the PDF File."**

8. Once student registration closes, at 8:00 P.M. on December 3, 2019, the editing section will no longer be available to students and it will be replaced for 48 hours with the section for liaisons to confirm the students. During this certification window, liaisons will certify projects, up to their IPA. Once every project member, from each school involved, has been confirmed, the project is automatically confirmed. If liaisons wish to certify any additional projects for entry in a lottery, they may do so at this time. The lottery will be selected via raffle/round robin based upon the number of certified projects at the close of registration, and the maximum capacity for LISEF 2020. The certification window closes at 8:00 P.M. on December 5, 2019.

9. On December 12, the final project allocation numbers with be posted on our website. Schools will be invoiced for all the confirmed projects, including any confirmed lottery projects that were granted. Non

certified projects will not be invoiced; non certified lottery projects will not be placed into the raffle/ round robin.

10. The liaison must login to their account to view all student registration items PRIOR to the close of registration to determine if your students have completed all tasks to your satisfaction.

11. The liaison needs to download the PDF files to examine them PRIOR to the PDF upload deadline, 8:00 P.M., January 29, 2020; check that the PDF contains the Wizard, Abstract, ISEF paperwork, including a research plan, research paper and the digital file of the project board for each project. The liaison will *not* be able to upload revisions but must direct their students to do so; if corrections are needed, the student must upload an entire new single PDF with each revision as it will *overwrite any previous upload*. Once the liaison is satisfied with the upload for each project, the liaison should print a copy for their files. *If the student misses the upload deadline the project automatically fails to qualify.*

12. If Consent forms are required, they must be submitted in a separate PDF upload on the project registration page. The deadline for this submission is 8:00 P.M. on January 29, 2020.

13. *The PDF upload and consent forms upload are the student's responsibility*. If the liaison elects to upload a project's PDF upload or consent forms (if required), any errors in doing so will be treated as a student error and the project may fail to qualify. Each file cannot be larger than 20MB.

Online Project Registration by Student

The individual or team leader of a project will:

1. After creating an account, LISEF Students will need the following information to complete Project registration: School Name; Adult Sponsor Name; Number of students participating in project; ISEF Category and Subcategory; Project Title and Abstract; ISEF forms needed; Name of Designated Supervisor and Qualified Scientist (if needed).

2. To complete project registration the following student information is needed for each participating student on the project: First and Last name; Birthdate; Lunch Choice; Grade Level; Home Address; Phone Number; Gender; Citizenship Status

3. Registration is NOT complete until all pages have material entered, and the "complete" button has been clicked.

4. Submission of a draft of your Abstract is required at the time of online registration. The Abstract can be updated online *after* registration closes at 8:00 P.M. on December 3, 2019. The deadline for final updating of Abstracts is January 29, 2020, at 8:00 P.M.; this abstract will be made available to the judges. A 5 point deduction will be made from each judge's raw score at Round 1 for the lack of a complete Abstract in the project registration page (see ISEF Guidelines 2020, p. 29: an abstract must include the purpose of the experiment, procedure, data, and conclusions and *represent only the work of the student(s)*).

5. After submission of the online registration of an individual/team leader, the individual/team leader may login to edit personal information, and title ONLY up until the close of registration at 8:00 P.M. on December 3, 2019; the abstract, PDF upload and if required, Consent forms upload, can continue to be edited up until their specific deadlines. The student must upload an entire PDF set with each revision as it will overwrite any previous upload.

6. The individual/team leader must upload a *single* PDF document which includes a copy of the Rules Wizard print out, Abstract on ISEF 22 Category Official Abstract Form, ISEF paperwork, including

Research Plan/Post Summary, research paper and digital file of the project board. The deadline for this submission is 8:00 P.M. on January 29, 2020 *(missing this deadline automatically fails to qualify the project).* The file cannot be larger than 20MB. (For further instructions see page 18).

7. If Consent forms are required, they must be submitted in a separate PDF upload on the project registration page. The deadline for this submission is 8:00 P.M. on January 29, 2020. The file cannot be larger than 20MB.

Project PDF File Upload

- After a project has been registered, the individual/project leader will have the ability to upload a PDF file to be associated with their project. This PDF file can be overwritten by the individual/project leader until the deadline has passed; the deadline this year for the Project PDF Upload is January 29, 2020, 8:00 pm.
- **Student:** All items must be uploaded in ONE file as there will be only ONE upload per project. **No interactive PDF files should be submitted.** To avoid interactive forms, print and then scan as a PDF. Each project must complete this step to be assigned judges. A project without a Project PDF will FAIL to Qualify. No refund will be given.
- The all inclusive Project PDF is a single file that contains the following, in this order:
    1. ISEF Rules Wizard printout, with the individual/team leader's name in upper right-hand corner. https://ruleswizard.societyforscience.org/
    2. An updated Abstract on the ISEF 22 Category Official Abstract Form. This is an interactive form. Print completed form first, then scan as a PDF before including in upload. (5 point penalty from each Round 2 judge's raw score if this is missing from the PDF upload). https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/Resources/Abstracts/22-Categories.pdf
    3. ALL ISEF and LISEF completed forms/documentation, including the Research Plan/Post Summary (5 point penalty from each Round 2 judge's raw score if this is missing from the PDF upload). Place your ISEF forms together in the order in which they appear in the ISEF Rule Book. https://student.societyforscience.org/intel-isef-forms
    4. Copy of research paper (5 point penalty from each Round 2 judge's raw score if this is missing from the PDF upload).
    5. A PDF of your final project board (5 point penalty from each Round 2 judge's raw score if this is missing from the PDF upload).
- There is a 5 point penalty on each of the judges Round 2 raw score for lack of a proper abstract, research plan, research paper and presentation board in the PDF Upload (as per above Additional LISEF rules). The total penalty will not exceed 5 points on each of the judges Round 2 raw score for any combination of missing items.
- The PDF File Upload should NOT contain any of the completed Human Participant Consent Forms. If Consent forms are required, they must be submitted in a separate PDF upload on the project registration page. The deadline for this submission is 8:00 P.M. on January 29, 2020.
- **The PDF upload is a student responsibility.** If the liaison elects to upload a project's PDF upload, and consent forms (if required) any errors in doing so will be treated as a student error.

- **How to check on your uploaded material and remedy blank forms:** Once logged in to your dashboard, students should select "Project Uploads" on the left side. Click on "Browse" to select the PDF file to upload, then click the green "Upload File" button. Once the PDF is uploaded "File Successfully Uploaded" will appear. At this time a button will appear that says "Download Current Project PDF." Use this button to download and view the file you have uploaded which the LISEF SRC will review. If the file is not to your satisfaction, you can write over that document, by uploading a new file.
  - ***Please note that blank forms, are not acceptable and count as a missing form during the SRC review process. If forms appear blank in the upload, you used an interactive PDF. You must scan any interactive forms and must submit a new upload of the entire set of forms including any forms that needed to be scanned.

LISEF Project Display Regulations

1. See https://student.societyforscience.org/intel-isef-display-and-safety-regulations for general display rules.
2. All projects MUST display the *Abstract on the ISEF Form vertically*, and if *Forms 1C (both pages, on separate sheets) or 7 are needed, they must also be displayed in plain sight.*
3. Electricity will not be provided.
4. Loss or damage: Valuable equipment may be part of the display only if the student participant accepts full responsibility should it be lost or damaged. LISEF, Inc. assumes no responsibility for loss or damage to any project or project component.
5. No equipment is allowed under the table setup.

Fair Day Information - Round 1

1. Liaisons will submit one LISEF Media Release Form for each student participating in the fair, and one for each district employee that accompanies the students to the fair, at the Registration Desk in the lobby upon their arrival.
2. The Abstract on the 22 Category ISEF Official Abstract Form must be displayed vertically at your project.
3. If required, Forms 1C (both pages, on separate sheets) and/or 7 must be displayed on your table.
4. Prepare a presentation of no more than seven (7) minutes, and be prepared for a question and answer session of five (5) minutes. It is at the judge's discretion to allow you to do a formal presentation.
5. If the liaison is unable to attend on any day of the competition, the liaison must arrange for a district employee to act as chaperone during the entire competition and awards program and that chaperone must assume the duties/responsibilities of the liaison.

Advancement to Round 2

- The number of projects that move on from Day 1 to Day 2 is a minimum of 25% of the projects in a category with a maximum of 10. If a category is being awarded 2 ISEF spots, the maximum for that category will be set at 20 but may be less if the calculation dictates. When this calculation results in a decimal equal to or greater than 0.5, we will round up. Projects with negative z-scores are not eligible

to advance. If the calculation results in a number less than 5, LISEF will ask the 5 projects with the highest positive z-scores as long as there are 5 with positive z-scores.
- **PLEASE NOTE:** The research paper and supporting ISEF Forms will be reviewed for compliance with the ISEF International Rules and LISEF Rules; an interview may result. Projects that fail to qualify or fail to submit all items requested by the SRC cannot participate in LISEF Round 2.

Fair Day Information - Round 2

1. Prior to Day 2, students that advanced to Round 2, will receive a SRC letter. This letter will indicate if any corrections to ISEF forms are needed. These forms must be sent to the LISEF SRC, as per instructions on the letter, and are due before Round 2. No updated paperwork should be brought to Round 2.
2. Liaisons will submit to the Registration Desk in the lobby upon arrival one LISEF Media Release Form for each accompanying district employee that did not attend Round 1.
3. The Abstract on the 22 Category ISEF Official Abstract Form must be displayed vertically at your project.
4. If required, Forms 1C (both pages, on separate sheets) and/or 7 **must** be displayed on your table.
5. Prepare a presentation of no more than seven (7) minutes, and be prepared for a question and answer session of five (5) minutes. It is at the judge's discretion to allow you to do a formal presentation.
6. If the liaison is unable to attend on any day of the competition, the liaison must arrange for a district employee to act as chaperone during the entire competition and awards program and that chaperone must assume the duties/responsibilities of the liaison.
7. Both Day 1 *Z*-score average and Day 2 *Z*-score average for each student will be combined to determine our winners, with the Day 2 *Z*-score being weighed more heavily using the following rules:
   a. If the number of rounds of judging on day 1/the number of rounds of judging on day 2 < .5, we would count day 1 avg z-score as 15% and Day 2 avg z-score as 85%.
   b. If the number of rounds of judging on day 1/the number of rounds of judging on day 2 = .5, we would count day 1 avg z-score as 25% and Day 2 avg z-score as 75%.
   c. If the number of rounds of judging on day 1/the number of rounds of judging on day 2 > .5, we would count day 1 avg z-score as 33 1/3% and Day 2 avg z-score as 66 2/3%.
8. All first place winners must remain for a short meeting immediately after the awards ceremony. **Winners only become finalists if they receive an email on the Saturday following the competition that their status is now ISEF Finalist.**
9. There will be a *MANDATORY* after-school finalists' meeting on Tuesday, March 17, 2020 place and time to be announced, for finalists advancing to ISEF and their chaperones.
10. There will be a second *MANDATORY* meeting for finalists and their chaperones, Tuesday, April 21, 2020, where finalists will give their presentation to a panel; shipping information to be provided in finalists packet.

LISEF Allocation at ISEF

- Society for Science and the Public has not indicated the number of projects that LISEF will be awarded for the 2020 ISEF. The number and make-up of LISEF categories, based on sub-category registration numbers, will be determined after the close of student registration. LISEF categories will be voted on

during the open session of the December LISEF monthly meeting. The number of projects advancing to ISEF from each category will be determined at that same meeting, with the total in all categories equaling the ISEF allotted number of projects.

Registration Fees

1. If paying by check, the entry fee is $220 for *each* student, individual or team member, and covers *both* rounds. If paying through ESBOCES, the fee is $265 per student; this cost is inclusive of the ESBOCES administrative fees.
2. Districts are financially committed to pay for **all** certified projects as well as any lottery projects awarded via raffle/round robin. The Final School Allocation number will be posted on our website www.lisef.org by December 12, 2019.
3. **NEW SCHOOL INCENTIVE:** The entry fee for one *project* (regardless of whether it is an Individual or Team project) will be waived for schools competing for the first time in LISEF.
4. Fees are not refundable.
5. If a school district does not meet its financial commitment to LISEF, the school's IPA will be reduced by 50% for the following year and only be increased by one slot each subsequent year until the original IPA is reached.
6. Payment:
   a. Purchase Orders will not be accepted, however you may want to consider encumbering the funds early in the school year.
   b. To pay directly, send to the LISEF mailing address:
      i. One check per school to cover all of the school's registered students
      ii. One copy of the LISEF Direct Payment Form
      iii. One copy of the LISEF invoice, including the page with student names.
   c. To pay through ESBOCES, send to the LISEF mailing address:
      i. *Two* copies of the completed and signed ESBOCES form
      ii. *One* copy of the LISEF invoice, including the page with student names
      iii. *One* copy of the Final School Allocation page with your school's name listed. NOTE: Do not send these forms to BOCES but directly to LISEF
   d. Cross contracts, if needed, should be sent to the school's BOCES district. **If Eastern Suffolk BOCES does not receive the Cross Contract in a timely manner, you must pay directly.**
   e. Fees (or BOCES Forms) must be *received* no later than **January 22, 2020**.
   f. Send your Direct Payment (with check) or ESBOCES documents to:
      L. I. Science and Engineering Fair, Inc.
      998 Old Country RD STE C PMB 164
      Plainview, NY 11803

*Contact treasurer@lisef.org for questions with billing procedures.

LISEF Fair 2020 Direct Payment Form

School Name _____

School Address _____

_____

School/District Contact Person _____

School/District Contact Person Email _____

School Telephone _____

School District Name _____

Fee@ $220/student for LISEF

LISEF: Number of Registered **Students**_____ @ $220/**student**

Total Fee = $_____

The following items must be received by January 22, 2020:

·   *One* copy of this form
·   *One* copy of all pages of the LISEF INVOICE
·   *CHECK* (full payment) made out to L. I. SCIENCE and ENGINEERING FAIR, INC.

SEND TO:
L.I. Science and Engineering Fair, Inc.
998 Old Country Road, STE C PMB 164
Plainview, NY 11803

School Districts that do not send checks or BOCES Forms by January 22, 2020 will be ineligible for LISEF 2020.

LISEF Fair 2020 Eastern Suffolk BOCES Participation Form

School Name _____

School Address _____

_____

School/District Contact Person _____

School/District Contact Person Email _____

School Telephone _____

School District Name _____

Fee @ \$265/student for LISEF

LISEF: Number of Registered **Students**_____@ \$265/**student**

Total Fee = \$_____

Superintendent Signature _____Date _____

Eastern Suffolk BOCES will bill the school district for the total fee which is inclusive of their administration costs. The total LISEF Fees will be eligible for BOCES aid, at the district aid ratio for ESBOCES Co-Ser 435.160.

The following items must be *received* by **January 22, 2020:**

- *Two* copies of this form
- *One* copy of the **ESBOCES Invoice with names included**
- *One* copy of the 2020 FINAL School Allocation page with your school's name listed.

<div align="center">

SEND TO: L. I. Science and Engineering Fair, Inc.
998 Old Country Road, STE C PMB 164
Plainview, NY 11803

</div>

School Districts that do not send checks or ESBOCES Forms by January 22, 2020 will be ineligible for LISEF 2020.

School Districts that do not belong to the Eastern Suffolk BOCES District must file a Cross Contract with their local BOCES district. To obtain information about the Cross Contract form and/or copies of the Cross Contract form, contact your local BOCES district. One copy of the Cross Contract Form must be mailed directly to your local BOCES district. **Do not mail cross contracts to LISEF, Inc.** If Eastern Suffolk BOCES does not receive the Cross Contract in a timely manner, you must pay directly.

LISEF Media Release Form

Submit one release form per student at Round 1 (Round 2 for JV fair) and one per district employee attending either round of the fair. Adults should enter the word ADULT in the Project Code designation.

*Middle School students and adults must submit media release forms via e-mail to msfair@lisef.org, following the instructions on the MS Guidelines.

Participant's Name (Please Print)	**Project Code**
School	

PARENTS/ADULTS- PLEASE READ THE FOLLOWING IN ITS ENTIRETY BEFORE YOU SIGN:

No guests/observers (this includes but is not limited to school administrators, mentors, classmates, relatives, and or friends) are permitted inside any presentation rooms, or the awards ceremony held at the Crest Hollow Country Club the day of LISEF, LISEF JV, or Broadcom MASTERS. If guests/observers come the day of the fairs, they will be asked to leave the building.

[   ] I/We, the parents and/or guardian of the above named participant, agree that the said participant and participant's project may be photographed, filmed, or taped and that LISEF, Inc. may use such media and/or the participant's name and project description in connection with LISEF and the promotion of LISEF, Inc. and that we will not make any claim for invasion of privacy or any other legal right in connection with such uses by LISEF, Inc.

[   ] As an accompanying adult, I agree that LISEF, Inc. may use any media that contains my photograph in connection with LISEF and the promotion of LISEF, Inc. and that I will not make any claim for invasion of privacy or any other legal right in connection with such uses by LISEF, Inc.

Adult or Parents and/or Guardian Name _____

<div align="center">(Please Print)</div>

Adult or Parents and/or Guardian Signature _____

Date _____