

STUDENT EXHIBITOR HANDBOOK

MARCH 26-28, 2020 ATHENS, GA



Congratulations on being selected from your Regional Fair to be an exhibitor at the 2020 Georgia Science & Engineering Fair. Advancing to the state competition is a great honor, and you are to be commended for your hard work and excellent research.

Please review this handbook carefully with a teacher and parent. It contains important information that will help you prepare for GSEF and make it a great experience.

GSEF will take place March 26-28, 2020 at the Classic Center in downtown Athens. Visit the GSEF website for the most up-to-date information about the GSEF event.

GSEF is an official affiliate of the Regeneron International Science & Engineering Fair (ISEF). To be eligible for competition at GSEF, all projects must adhere to the ISEF Rules & Guidelines for Pre-College Science Research.



GSEF Website

www.georgiacenter.uga.edu/gsef

ISEF Rules & Guidelines

<https://www.societyforscience.org/isef/international-rules/>

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GENERAL EXHIBITOR INFORMATION & ATTENDANCE POLICY

Visit the GSEF website (www.georgiacenter.uga.edu/gsef) for information pertinent to all GSEF attendees (parents, teachers, chaperones, etc.), including information about hotels, parking, and Awards Ceremony tickets/livestream.

Registration Status

To register for GSEF, follow the Registration Instructions provided by your Regional Fair Director. Registration materials and payments may take a couple of weeks to be reviewed by the GSEF office. As these are processed, project data will be added to a List of Exhibitors link on the GSEF website. Upon receiving your registration confirmation email, please check this list to review the accuracy of your project information (e.g., spelling of name or project title).

Schedule/Dress

Review the Event Schedule on page 7. Exhibitors must be present Friday, March 27 for judging and Saturday, March 28 for the afternoon public viewing time and Awards Ceremony.

It is recommended that exhibitors dress professionally for judging and the Awards Ceremony. Casual dress is appropriate for project set-up.

Setting Up Your Project

The week of March 23, exhibit ID numbers will be posted on the GSEF website. Please check this list to find and memorize your exhibit ID number. This number will be your assigned space in the Exhibit Hall.

Ensure your exhibit adheres to all Display & Safety Regulations (see pg. 5) and that you have included all required forms (see below).

You are free to choose either of two set-up times: Thursday evening 5:30-8:30 pm or Friday morning 7:30-9:30 am - or both! After you are completely set up, sign the Exhibit ID card taped to your table and then you may leave. Return to the Exhibit Hall at **11:45 am on Friday** for judging. Until then, you are free to relax, eat an early lunch, or explore UGA/downtown Athens. Non-exhibitors will not be permitted in Exhibit Hall any time between 9:30 am - 5:30 pm on Friday.

What to Bring

Your exhibit and photocopies (not originals) of all forms in a 3-ring binder. We cannot guarantee that copies of your forms will be available at GSEF, so bring everything with you. **REQUIRED FORMS TO BRING:**

- Official Abstract Form
- Form 1: Checklist for Adult Sponsor
- Form 1A: Student Checklist
- Research Plan/Post-Project Summary
- Form 1B: Approval Form
- Forms 1C through 7 as required for your research
- If photo of anyone other than exhibitor is displayed: Signed release statement from the individual in photograph

Optional Items: Original, bound log book and research paper (highly recommended but not specifically required), bottle of water (must be kept in bag under table at all times), book, homework, *silent* entertainment.

Recommended: Know Your Social Security Number! Some cash awards require forms asking for your SSN to claim. Those who complete the forms on site after the Awards Ceremony will receive their checks more quickly.

Common Display & Safety Violations

Review the Display & Safety Regulations (pg. 5) before coming to GSEF. Frequently violated regulations include:

SOURCE CREDITS: Every single photograph, graph, table, chart, and image must have a source credit associated with it, visible somewhere on the front of the board or on a 'table tent' (e.g., "All photographs taken by John Smith"; "Graph A created by Mary Brown"; "Image taken from www.hereisawebsite.com"; etc.)

UNOFFICIAL ABSTRACTS: No unofficial abstracts are allowed, including any paragraph or section on the board titled "Abstract" followed by anything other than an Official Abstract form. Students must change section headers to "Summary" or remove them completely.

PROHIBITED ITEMS: Some materials such as liquid, food, glass, dirt, sand, or glass are not allowed at the exhibit. See regulations for complete list.

ATTENDANCE POLICY

Please do not register for this event unless you can commit fully. All exhibitors are expected to attend the entire event, including morning and afternoon judging sessions on Friday and the Saturday Attended Public Viewing and Awards Ceremony. Thursday evening early setup is optional.

No exceptions will be granted for conflicts with other events or activities, including academic or athletic competitions, social events such as weddings and proms, family or group travel commitments, or cultural events such as art shows, concerts, or performances. Students and their families must decide together which events will take priority. We realize that these other events are important to you and that some of you will have to make hard decisions about which event you want to attend. Notify us immediately if you have been selected for GSEF but you decide not to participate.

Exceptions may be granted only for serious medical situations, such as scheduled chemotherapy or dialysis, and for certain religious prohibitions, such as observant Jews who cannot travel on the Sabbath. Notify us early.

Judging

Judging outside of the officially scheduled periods is prohibited. Morning and afternoon judging involve different judge teams and are for different purposes and awards.

Team Attendance

For team projects, all members must register and pay the registration fee. Teams may be represented at GSEF by one or more members; however, individual judges have the freedom not to consider a team if they haven't had the opportunity to meet and interview all members. If the project advances to ISEF, all members must attend the international competition.

Awards Ceremony Attendance

Any student who misses the Awards Ceremony will be ineligible for the major and special awards, including scholarships, internships, ISEF Trips, Grand Awards, the Pinnacle Award, and large monetary awards. This is out of respect for the award sponsors, who often wish to present the awards in person and to have publicity photos taken with the winners they interviewed on Friday. The absent student may still be eligible for "honors" and some unsponsored awards, provided the substitute policy (below) is followed.

Substitutes

No substitutes are permitted during judging.

A student who cannot attend the entire Awards Ceremony may designate another student exhibitor to come to the stage at the time the absent student's name is called and to accept unsponsored awards on the absent student's behalf. The substitute's photo will be taken with the award, and if the photo is published, it will bear the name of the winner. Parents and teachers may not collect awards on behalf of students. GSEF does not record the names of substitutes, nor is GSEF responsible for the substitute's handling of the award after acceptance. If the absent student wins a monetary award, the substitute must get the award paperwork to the winner to sign and return to GSEF within ten days. Awards unclaimed at the ceremony may be forfeited.

Exhibit Removal

Exhibits may not be removed until after the Awards Ceremony. Some awards are distributed by placing them on exhibits while the Awards Ceremony is being conducted. If an exhibit is removed early, honors ribbons and certain other awards will be forfeited.



PROJECT CATEGORIES

GSEF projects must be entered in one of the 22 categories below. **Category selection in GSEF registration materials is final.** Many projects could easily fit into more than one GSEF category; review the categories below and the more in-depth descriptions listed in the full Project Category document at www.georgiacenter.uqa.edu/qsef to select ONE that most accurately describes your project.

Life Sciences Categories
<p>ANIMAL SCIENCES <i>Animal Behavior</i> <i>Cellular Studies</i> <i>Development</i> <i>Ecology</i> <i>Genetics</i> <i>Nutrition & Growth</i> <i>Physiology</i> <i>Systematics & Evolution</i></p> <p>BIOCHEMISTRY <i>Analytical Biochemistry</i> <i>General Biochemistry</i> <i>Medical Biochemistry</i> <i>Structural Biochemistry</i></p> <p>CELLULAR & MOLECULAR BIOLOGY <i>Cell Physiology</i> <i>Cellular Immunology</i> <i>Genetics</i> <i>Molecular Biology</i> <i>Neurobiology</i></p> <p>MICROBIOLOGY <i>Antimicrobials & Antibiotics</i> <i>Applied Microbiology</i> <i>Bacteriology</i> <i>Environmental Microbiology</i> <i>Microbial Genetics</i> <i>Virology</i></p> <p>PLANT SCIENCES <i>Agriculture & Agronomy</i> <i>Ecology</i> <i>Genetics/Breeding</i> <i>Growth & Development</i> <i>Pathology</i> <i>Plant Physiology</i> <i>Systematics & Evolution</i></p>

Medicine & Health Categories
<p>BEHAVIORAL & SOCIAL SCIENCES <i>Clinical & Developmental Psychology</i> <i>Cognitive Psychology</i> <i>Neuroscience</i> <i>Physiological Psychology</i> <i>Sociology & Social Psychology</i></p> <p>BIOMEDICAL & HEALTH SCIENCES <i>Cell, Organ, & Systems Physiology</i> <i>Genetics & Molecular Biology of Disease</i> <i>Immunology</i> <i>Nutrition & Natural Products</i> <i>Pathophysiology</i></p> <p>BIOMEDICAL ENGINEERING <i>Biomaterials & Regenerative Medicine</i> <i>Biomechanics</i> <i>Biomedical Devices</i> <i>Biomedical Imaging</i> <i>Cell & Tissue Engineering</i> <i>Synthetic Biology</i></p> <p>COMPUTATIONAL BIOLOGY & BIOINFORMATICS <i>Computational Biomodeling</i> <i>Computational Epidemiology</i> <i>Computational Evolutionary Biology</i> <i>Computational Neuroscience</i> <i>Computational Pharmacology</i> <i>Genomics</i></p> <p>TRANSLATIONAL MEDICAL SCIENCE <i>Disease Detection & Diagnosis</i> <i>Disease Prevention</i> <i>Disease Treatment & Therapies</i> <i>Drug Identification & Testing</i> <i>Pre-Clinical Studies</i></p>

Math, Computing & Engineering Categories
<p>EMBEDDED SYSTEMS <i>Circuits</i> <i>Internet of Things</i> <i>Microcontrollers</i> <i>Networking & Data Communications</i> <i>Optics</i> <i>Sensors</i> <i>Signal Processing</i></p> <p>ENGINEERING MECHANICS <i>Aerospace & Aeronautical Engineering</i> <i>Civil Engineering</i> <i>Computational Mechanics</i> <i>Control Theory</i> <i>Ground Vehicle Systems</i> <i>Industrial Engineering-Processing</i> <i>Mechanical Engineering</i> <i>Naval Systems</i></p> <p>MATHEMATICS <i>Analysis</i> <i>Combinatorics, Graph Theory, Game Theory</i> <i>Geometry & Topology</i> <i>Number Theory</i> <i>Probability & Statistics</i></p> <p>ROBOTICS & INTELLIGENT MACHINES <i>Biomechanics</i> <i>Cognitive Systems</i> <i>Control Theory</i> <i>Machine Learning</i> <i>Robot Kinematics</i></p> <p>SYSTEMS SOFTWARE <i>Algorithms</i> <i>Cybersecurity</i> <i>Databases</i> <i>Human/Machine Interface</i> <i>Languages & Operating Systems</i> <i>Mobile Apps</i> <i>Online Learning</i></p>

When selecting a category, consider the following: *Who will be the most qualified to judge my project? What area of expertise is the most important for the judge to have? (for example, a medical background or an engineering background?) What is the emphasis of my project? What characteristic of my project is the most innovative, unique or important? (For example, is it the application in medicine or the engineering of the machine? Is it inserting the proper gene or the method of computer mapping to demonstrate the results?)*

Earth, Energy & Environment Categories	
<p>EARTH & ENVIRONMENTAL SCIENCE <i>Atmospheric Science</i> <i>Climate Science</i> <i>Environmental Effects on Ecosystems</i> <i>Geosciences</i> <i>Water Science</i></p> <p>ENVIRONMENTAL ENGINEERING <i>Bioremediation</i> <i>Land Reclamation</i> <i>Pollution Control</i> <i>Recycling & Waste Management</i> <i>Water Resources Management</i></p>	<p>ENERGY: CHEMICAL <i>Alternative Fuels</i> <i>Computational Energy Science</i> <i>Fossil Fuel Energy</i> <i>Fuel Cells & Battery Development</i> <i>Microbial Fuel Cells</i> <i>Solar Materials</i></p> <p>ENERGY: PHYSICAL <i>Hydro Power</i> <i>Nuclear Power</i> <i>Solar</i> <i>Sustainable Design</i> <i>Thermal Power</i> <i>Wind</i></p>

Physical Sciences Categories
<p>CHEMISTRY <i>Analytical Chemistry</i> <i>Computational Chemistry</i> <i>Environmental Chemistry</i> <i>Inorganic Chemistry</i> <i>Materials Chemistry</i> <i>Organic Chemistry</i> <i>Physical Chemistry</i></p> <p>MATERIALS SCIENCE <i>Biomaterials</i> <i>Ceramic & Glasses</i> <i>Composite Materials</i> <i>Computation & Theory</i> <i>Electronic, Optical & Magnetic Materials</i> <i>Nanomaterials</i> <i>Polymers</i></p> <p>PHYSICS & ASTRONOMY <i>Atomic, Molecular, & Optical Physics</i> <i>Astronomy & Cosmology</i> <i>Biological Physics</i> <i>Condensed Matter & Materials</i> <i>Mechanics</i> <i>Nuclear & Particle Physics</i> <i>Theoretical, Computational, Quantum Physics</i></p>

Compliance required for all exhibitors. For situations not addressed here, the ISEF Rules for Pre-College Science Research apply: <https://www.societyforscience.org/isef/international-rules>

Display Regulations

Maximum Size of Project

<i>Depth</i>	(front to back)	30 inches
<i>Width</i>	(side to side)	48 inches
<i>Height</i>	(tabletop to top)	72 inches

GSEF projects **must** be exhibited on the tabletop. No floor exhibits. No part of a GSEF exhibit may be placed on the floor or under the table. All project materials, supports, equipment, and demonstrations must be contained on the tabletop. Displays do not have to be trifold boards; pull-ups and pop-ups are allowed if within allowed dimensions.

Official Abstract

The complete, unaltered 8.5x11 Official GSEF Abstract Form (**preferred**) or a complete, unaltered 8.5x11 Official ISEF Abstract Form are the only abstracts that may be exhibited. It must be displayed vertically, preferably by taping it to hang from the front edge of the table. It is acceptable, but not preferred, to incorporate the form on the display board or to stand it in a document frame (no glass). Abstract Forms do not need to be stamped or embossed. **You may not have a section titled "Abstract" on your board unless the section contains only an Official Abstract Form** (not just the abstract text).

Other Forms to Tape to Table

If your research required the following forms, they must be taped to the front of your table/displayed vertically:

- Form (1C) Regulated Research Institutional/Industrial Setting
- Form (7) Continuation Project

Binder & Required Forms

Arrange **photocopies** (not originals - keep those at home in a safe place!) of all other required forms in numeric order in a **3-ring binder** placed on the table. Required forms include, but are not limited to:

- Form (1): Checklist for Adult Sponsor
- Form (1A): Student Checklist
- Research Plan/Project Summary
- Form (1B): Approval Form
- Forms (1C) through (7) as required for your project

Optional items such as research paper may also be included.

Log Book & Other Items on Tabletop

Although ISEF regulations do not require a bound logbook, judges like to see this item and it is highly recommended. Your logbook should be on your table. Other items may include a photo album of the work, previous logbooks for Continuation projects, and items necessary to demonstrate the science if the board and binder are not sufficient, provided these items do not violate any other D&S Regulations.

Continuations

A project that is a continuation of a previous year's work must be about the student's new work for this year, with minimal reference to the previous research. It is preferred for the project title or subtitle to mention which year the project is; e.g., "Year 2." Longitudinal studies may present only conclusive data from prior years. Continuation projects must have Form (7) taped to front of table.

Human Informed Consent/Assent Forms

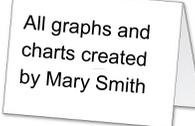
Completed informed consent/assent for a human participant study are NOT to be displayed and should NOT be present at the project display. A sample (incomplete) form may be included in the binder, but under NO CIRCUMSTANCE should the completed informed consent/assent forms for a human participant be in the Exhibit Hall.

Allowable Handouts

The only handout allowed is an UNALTERED copy of the complete 8.5x11 Official Abstract Form. You are permitted (but not required) to bring up to 20 unaltered photocopies of your Official Abstract form to GSEF to distribute to judges. GSEF will **not** make these copies for you. You may not distribute any other items or forms of information.

Displayed Graphs, Images, & Photos

Credits: You must cite the origin of every photo, graph, table, chart or other images, including those made by the student and those taken from the internet, journals and books. The citation must state who created the graph/chart/table, who took the photograph, or where a photo or image came from. For example: "All photographs by Jon Kim," or "Image from www.wherever.com." Credit lines may be placed next to each item or elsewhere on the front of the board. If all graphs/images were created by the exhibitor or are from the same source, one clearly visible credit line on a "tent" on the table is sufficient.



Content: Photos or images on board must not be deemed insensitive, offensive or inappropriate (e.g., no surgery, necrosis or dissection) by any member of the SRC, the Display & Safety Committee or GSEF staff. The decision made by any one of these groups is final.

Photograph Release

Photos/videos of people other than the finalist are not allowed unless a signed photograph release is available at the project. If the person is under 18, parent or guardian signature is required. Sample text: "I consent to the use of this visual image involving my participation/my child's participation in this research." Keep these releases in your binder. There is no specific official form for this purpose.

Mentor's Work / Acknowledgements

The mentor's name and institution may NOT appear anywhere on the display but may be mentioned in the optional research paper in the binder. Very minimal reference to work done by a mentor or others may be included **only** as background to clarify what the student's own research did and did not cover and must clearly indicate that it was not part of the student's work.

Replacement of Disqualified Items

If any GSEF representative requests that an object or item be removed from a display and that item is returned to the exhibit without specific permission from the GSEF Director, the project may be disqualified.

Audio-Visual or Multi-Media

At GSEF, electronic displays, e.g., PowerPoints or videos, for non-computer science projects are discouraged unless they are **necessary** to demonstrate the science. Judges are not required to view them. Displays must be under 30 seconds, with 15 seconds preferred. GSEF will discourage but ultimately is not responsible for equipment theft.

Electricity at Project

If you want electricity at your table, you must submit the Electricity Request Form and fee with your registration. Electricity will be approved only for projects that require it to demonstrate the research (e.g., computer science and engineering projects). If electricity is approved, an outlet will be provided within nine feet of the exhibit. The exhibitor must bring an approved extension cord.

Safety Regulations

Lighting

Lighting will not be approved for decorative purposes but may be approved if necessary to demonstrate the science. The electricity fee (\$100) must be submitted with registration. Bulb and fixture must not pose risk of injury if touched. Cool LED light is preferred. Incandescent, halogen and other warm light sources must be caged, encased, or otherwise protected so that 1) it is not possible to burn any person or item with any part of the apparatus, bulb, fixture, or casing, and 2) no glass can escape if the bulb is accidentally broken.

All other ISEF Rules & Guidelines regarding electricity must be followed. If you are using electricity, please be sure to read the complete rules thoroughly and follow them precisely: <https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/2020/Rules/Book.pdf>

Stability

All parts of the exhibit must be stable. Particular care must be taken with tall or heavy displays to ensure that they cannot tip over onto participants, judges, or guests.

Lasers

Lasers may be used only when they follow the ISEF Rules & Guidelines (<https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/2020/Rules/Book.pdf>). GSEF staff may revoke the privilege and require lasers to be removed if any careless or indiscriminate use is observed. Offenses may result in revoking the right to participate.

Other Safety Policies

GSEF staff and/or the Display & Safety Committee reserve the right to remove any item or entire project at their discretion for safety reasons or to protect the integrity of the GSEF and its rules and regulations.

Laptops/Tablets

If you are bringing a laptop or other valuable electronic device, consider investing in a security device such as a locking cable system to secure your item at the exhibit. GSEF will take measures to discourage theft/damage to exhibits or parts of exhibits, including electronics, but is ultimately not responsible should theft or damage occur.

The Following Items Are NOT ALLOWED at Exhibit

Not Allowed Per Safety Regulations:

- **Living or dead organisms**, including fungi, animals, plants and microorganisms
- **Taxidermy specimens, parts, pelts**
- **Preserved vertebrate or invertebrate animals** or animal parts, including cells
- Human or animal **food** of any kind
- Human or animal **parts or body fluids** (e.g., bones, urine, blood)
- **Plant materials** including potpourri, grain, birdseed, spices, leaves, flowers, logs, branches, etc. Plastic or other inorganic replicas or photographs should be used instead. (Exception: manufactured construction materials used in building the project or display)
- **Soil, sand, rock, cement, or waste** samples, even if permanently encased in acrylic
- **All chemicals**, including water.
- **All liquids, gels, powders, and creams** (e.g., shampoo, sunscreen, salt, soap, agar, etc.)
- **Dry ice** or other sublimating solids
- **Hazardous substances or devices** (e.g. poisons, drugs, firearms, weapons, ammunition, reloading devices, grease/oil and sublimating solids such as dry ice, etc.)
- **Sharp items** (e.g. syringes, needles, pipettes, knives)
- **Flames or highly flammable materials**
- **Glass** or glass objects unless deemed by the Display & Safety Committee to be an integral and necessary part of the project (e.g., glass that is an integral part of a computer screen)
- **Any apparatus with belts, pulleys, chains, or moving parts** with tension or pinch points that are not fully immobilized or shielded
- **Batteries** with open-top cells or wet cells
- **Drones or any flight-capable apparatus** unless propulsion power source is removed
- **3D printers** unless power source is removed
- Any apparatus or item deemed unsafe by any member of the SRC, the Display & Safety Committee, judges, or the GSEF staff (e.g., vacuum tubes or dangerous ray-generating devices, pressurized or empty tanks that previously contained combustibles, etc.)

Not Allowed Per Display Regulations:

- Any items that are **acknowledgments, self-promotions, or external endorsements** (such as naming the research institution or mentor, or patent pending statements)
- **Awards**, medals, flags, logos (including school and university logos)
- **Give-away items** such as flyers, pens, postcards, CDs, business cards, etc. (Exception: Exhibitors may give out up to 20 unaltered copies of the Official Abstract Form)
- **Postal addresses, URLs** (other than those used solely to cite the sources of photos), **email addresses, social media handles, QR codes, phone/fax numbers** of any exhibitor or his/her school or research institution
- **Active Internet** or email connections
- Reference to past work on the display board must be limited to summative past conclusory data and its comparison to the current year data set. No raw data from previous years may be displayed; however, it may be included in a logbooks and/or binder if clearly labeled, e.g. "Year 1."



No changes, modifications, or additions to projects may be made after approval by the Display & Safety Committee.

Exhibitors who do not adhere to this regulation will fail to qualify for competition.



EVENT SCHEDULE*

LOCATION: THE CLASSIC CENTER AT 300 N. THOMAS STREET, ATHENS, GA 30601

thursday March 26

5:30 pm - **EARLY EXHIBIT SET-UP**
8:30 pm *Classic Center Grand Hall*
Family and friends welcome. Exhibits may be set up Thursday evening and/or Friday morning but must be completely set up by 9:30 am Friday at the latest.

friday March 27

7:30 am - **EXHIBIT SETUP**
9:30 am *Classic Center Grand Hall*
Exhibitors, parents, chaperones, and guests must exit Exhibit Hall by 9:30 am.

9:30 am - **EXHIBITOR FREE TIME**
11:45 am
Exhibitors free for an early lunch, hotel check-in, shopping, etc. Return for judging at 11:45 am.

9:30 am - **PARENTS/CHAPERONES FREE TO EXPLORE ATHENS AND UGA**
5:30 pm
Parents/chaperones are asked to remain clear of the Classic Center building after 9:30 am today. A GSEF parent hospitality room with free coffee and Wi-Fi is available across the street at the Hilton Garden Inn.

10:00 am - **JUDGES' DISPLAY & SAFETY COMPLIANCE INSPECTION**
11:45 am
Only **official judges and GSEF staff** are permitted in the Exhibit Hall. Your complete exhibit must be displayed. Electrical items that can be operated in an unattended mode should be turned on.

11:45 am - **EXHIBITOR INTERVIEWS**
3:00 pm
ALL Exhibitors must be at their projects. Exhibitors & Judges **ONLY** in the Exhibit Hall.

3:00 pm - **CONCESSION BREAK**
3:30 pm *Classic Center Atrium; concessions available*
Students, remember to bring money for snacks! Please, no visitors (parents/chaperones/teachers) in the building during the break.

3:30 pm - **EXHIBITOR INTERVIEWS**
5:30 pm
ALL Exhibitors must be at their projects. Exhibitors & Judges **ONLY** in the Exhibit Hall.

5:30 pm **EXHIBITORS RELEASED**
Exhibitors and parents/chaperones are free to enjoy dinner and explore Athens. Exhibitors/parents/chaperones are not permitted in any part of the building at any time this evening.

saturday March 28

9:00 am - **EXHIBIT HALL OPEN TO PUBLIC**
3:00 pm *Classic Center Grand Hall*
Families, friends, and public welcome.

1:00 pm - **ALL EXHIBITORS AT PROJECTS (MANDATORY)**
3:00 pm *Classic Center Grand Hall*
All exhibitors must be at their projects to answer questions. Families, friends, and public welcome.

3:30 pm **EXHIBITORS LINE UP IN EXHIBIT HALL**
Classic Center Grand Hall
All exhibitors must be present. GSEF staff will be present to give instructions.

4:00 pm - **AWARDS CEREMONY**
6:00 pm *Classic Center Theatre*
Exhibitors must be present or forfeit awards. Exhibits may not be removed until conclusion of ceremony.

Guests (parents, teachers, chaperones) must have a **ticket** to enter the Awards Ceremony. Limit one guest ticket per student; additional tickets may be available on site on first-come, first-served basis. Further information about tickets will be included in GSEF registration confirmation materials.

Livestream of Awards Ceremony will be available for viewing on devices or in a viewing room on site.

6:00 pm - **PROJECT TEARDOWN**
8:00 pm *Classic Center Grand Hall*
After the Awards Ceremony, parents/chaperones should plan to meet students at their exhibits. Exhibits must be removed between 6:00—8:00 pm. Exhibits left after 8:00 pm will be removed by the clean-up crew.

6:30 pm - **ISEF PARTICIPANT MEETING**
7:00 pm *Classic Center Theatre Stage, Backstage*
For **all** ISEF 2020 delegates (those selected from their Regional Fair and those selected at GSEF): Report backstage immediately after the Awards Ceremony to take a group photo and receive important information about ISEF 2020.

Please review the **GSEF Attendance Policy** on page 3 of this document or posted at www.georgiacenter.uga.edu/gsef.

*Schedule is tentative at time of publication. For most up-to-date information, visit www.georgiacenter.uga.edu/gsef.



JUDGING CRITERIA

The GSEF judging process places special emphasis on the student's ability to discuss the project effectively during the interview, as well as the project's demonstration of originality, creativity, imagination, discovery, and inventiveness. Project displays should serve two functions: 1) to present the research clearly when the student is not present, and 2) to guide the interview toward an in-depth discussion. Judges may examine the student notebook (three-ring binder), which should include ISEF Forms (see below) and optional items such as a research paper.

JUNIOR DIVISION (Grade 6-8)

Most Projects	Engineering Projects (and some math, computer science)
I. SCIENTIFIC THOUGHT (10 pts) <ul style="list-style-type: none"> • Clear purpose • Testable using scientific methods • Variables and controls defined, appropriate, complete • Systematic data collection and analysis • Conclusions based solely and directly on the collected data • Originality and creativity in topic or approach 	I. ENGINEERING GOALS (10 pts) <ul style="list-style-type: none"> • Clear problem or need to be solved • Clear criteria for proposed solution • Identification of a solution • Development of prototype that demonstrates intended design, has been tested, demonstrates engineering skill • Originality and creativity in topic or approach
II. PRESENTATION (5 pts) <ul style="list-style-type: none"> • Student is interested and professional • Can clearly explain the logic, purpose, procedures, and conclusions of the project 	<ul style="list-style-type: none"> • Information in exhibit is presented in an orderly manner, with clear data and results • Student has "ownership" of the topic and project

SENIOR DIVISION (Grade 9-12)

Most Projects	Engineering Projects (and some math, computer science)
I. RESEARCH QUESTION (10 pts) <ul style="list-style-type: none"> • clear and focused purpose • identifies contribution to field of study • testable using scientific methods 	I. RESEARCH PROBLEM (10 pts) <ul style="list-style-type: none"> • description of a practical need or problem to be solved • definition of criteria for proposed solution • explanation of constraints
II. DESIGN AND METHODOLOGY (15 pts) <ul style="list-style-type: none"> • well-designed plan and data collection methods • variables and controls defined, appropriate and complete 	II. DESIGN & METHODOLOGY (15 pts) <ul style="list-style-type: none"> • exploration of alternatives to answer need or problem • identification of a solution • development of a prototype/model
III. EXECUTION: Data Collection, Analysis & Interpretation (20 pts) <ul style="list-style-type: none"> • systematic data collection and analysis • reproducibility of results • appropriate application of mathematical and statistical methods • sufficient data collected to support interpretation and conclusions 	III. EXECUTION: Construction & Testing (20 pts) <ul style="list-style-type: none"> • prototype demonstrates intended design • prototype has been tested in multiple conditions/trials • prototype demonstrates engineering skill and completeness
IV. CREATIVITY (20 pts) • project demonstrates significant creativity/originality/inventiveness in one or more of the above criteria	
V. PRESENTATION (35 pts) <u>Poster (10 pts):</u> <ul style="list-style-type: none"> • logical organization of material • clarity of graphics and legends • supporting documentation well selected and displayed 	<u>Interview (25 pts):</u> <ul style="list-style-type: none"> • clear, concise, thoughtful responses to questions • understanding of basic science relevant to project • understanding of interpretation and limitations of results and conclusions • degree of independence in conducting project • recognition of potential impact in science, society and/or economics • quality of ideas for further research • for team projects, contributions to and understanding of project by all members

All projects (Junior and Senior Division) must adhere to the ISEF Rules & Guidelines (<https://www.societyforscience.org/isef/international-rules>) governing the forms and approvals required for pre-college scientific research. The following forms are required for ALL projects and must be completed correctly; photocopies must be available at the project booth:

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|--|--|--|
| <input type="checkbox"/> OFFICIAL GSEF OR ISEF ABSTRACT FORM | <input type="checkbox"/> FORM 1A STUDENT CHECKLIST | <input type="checkbox"/> FORM 1B APPROVAL FORM |
| <input type="checkbox"/> FORM 1 CHECKLIST FOR ADULT SPONSOR | <input type="checkbox"/> RESEARCH PLAN/PROJECT SUMMARY | |

The following forms are also required for certain types of research. Forms must be completed correctly and available at the project booth:

- | | |
|--|---|
| <input type="checkbox"/> FORM 1C REGULATED RESEARCH SETTING - for research done in hospital, university, lab, or setting other than home, school, field | <input type="checkbox"/> FORMS 5A/5B VERTEBRATE ANIMALS - for animal research done at home, school, field (5A) or regulated research institution (5B) |
| <input type="checkbox"/> FORM 2 QUALIFIED SCIENTIST - for research involving human participants, vertebrate animals, potentially hazardous biological agents, or DEA-controlled substances | <input type="checkbox"/> FORM 6A POTENTIALLY HAZARDOUS BIOLOGICAL AGENTS & 6B HUMAN/ANIMAL TISSUE - for research involving microorganisms, rDNA, tissue, blood, bodily fluid. 6B also required if research involves fresh or frozen tissue, cells, blood, bodily fluid |
| <input type="checkbox"/> FORM 3 RISK ASSESSMENT - for research involving hazardous chemicals, activities or devices, or DEA-controlled substances, some human participants projects, and some potentially hazardous biological agents | <input type="checkbox"/> FORM 7 CONTINUATION - for projects that continue or expand upon a previous year's work. Also must have previous year's abstract and Research Plan |
| <input type="checkbox"/> FORM 4 HUMAN PARTICIPANTS - for research involving human participants | |

Most other questions are answered on the GSEF website (www.georgiacenter.uga.edu/gsef) or in the ISEF Rules & Guidelines (<https://www.societyforscience.org/isef/international-rules>).

Am I required to attend the entire GSEF event?

- ▶ Students must attend the entire judging period on Friday and the afternoon public viewing and Awards Ceremony on Saturday. Thursday set-up is optional.
- ▶ No exceptions are made for schedule conflicts. This includes scholarly or athletic competitions, social events such as weddings and proms, travel plans, performances, concerts, etc. We realize that these other events are important to you and that some of you will have to make hard decisions about which event you want to attend. Notify us promptly if you have been selected for GSEF but decide not to participate.
- ▶ Exceptions may be granted for serious medical situations, such as chemotherapy or dialysis, and for certain religious prohibitions, such as observant Jews who cannot travel on the Sabbath. Notify us early.
- ▶ Teams may be represented by one or more members; however, individual judges have the freedom not to consider a team if they have not had the opportunity to meet and interview all members.

Why haven't I received my GSEF registration confirmation email?

- ▶ We may not have processed your registration yet. It can take several weeks for your materials to make it from your Regional Fair into the GSEF system.
- ▶ It may have gone to your 'Junk Mail' folder.
- ▶ The **email address** on your GSEF Registration Form may have been **missing, illegible, or incorrect**. In this case, it is your responsibility to contact us (gsef@georgiacenter.uga.edu).

How do I know what forms I need?

- ▶ Everyone needs an Abstract, Forms 1, 1A, 1B, and Research Plan.
- ▶ Depending on the type of research you plan to do, you may need additional forms. Use the **Forms Wizard** (<https://ruleswizard.societyforscience.org>) to determine this. If your project will involve interaction with other people, animals, bacteria, or tissues, you will very likely need more forms.

What do you mean I "used an old form" or "followed the old rules"?

- ▶ You must use the current year's (2020) forms and know this year's schedule and rules. They can be found on the GSEF website (www.georgiacenter.uga.edu/gsef). Always get your forms and instructions from here or from the ISEF website (<https://www.societyforscience.org/isef/forms>) – don't rely on previous years' information!

Are GSEF rules the same as ISEF rules?

- ▶ Mostly. Here are a few of the exceptions; refer to website for more:
- ▶ GSEF prefers to receive PHOTOCOPIES of your forms with your Registration Packet. You must also have **your own set of photocopies** in a binder at your exhibit.
- ▶ GSEF requires EVERY EXHIBITOR to submit a signed GSEF Participation Agreement, provided by your Regional Fair Director.
- ▶ GSEF exhibits must fit on top of a table 48" w x 30" d and have a maximum height of 72 inches. ISEF allows exhibits that stand on the floor or use additional space under the table, but NO floor space may be used at GSEF.

What are the expectations for different ages?

- ▶ Grades 6-10 are learning experimentation and correlation. They may: 1) take some action on one group and compare the results to a control group, or 2) observe how something influences or correlates with something else. Examples: Does [my idea] decrease the pollution in this stream? Is this protein always present when X happens?

- ▶ Grades 11-12 should be able to analyze their data to show its significance. They should consider how their research can potentially benefit society or the environment. Some projects may be moving toward inventing something new and useful, making a new discovery, or pushing the boundaries of current knowledge.

What can get me "kicked out" of GSEF?

- ▶ Presenting someone else's work as your own.
- ▶ Refusing to follow instructions of GSEF staff or judges.
- ▶ Violation of GSEF Display & Safety Regulations.

What are the most common paperwork errors?

- ▶ Failure to do the forms that must be done before starting on your research project.
- ▶ Missing signatures or missing forms.

What are the most common research errors?

- ▶ Insufficient data due to small sample size or too few replications/repetitions.
- ▶ Having a conclusion that does not directly derive from your data. Or collecting the wrong type of data - data that can't support or disprove your stated hypothesis/purpose.

What are the most common GSEF display errors?

- ▶ Forgetting to display credits for every photo, chart, and graph, even your own.
- ▶ Including an *unofficial* abstract on the board. Only the unaltered 8.5x11 Official Abstract Form may be displayed.
- ▶ Showing people in photos or videos without having their signed release at the exhibit.
- ▶ Glass. Followed by food (including spices, candy, salt), seeds, powders, gels, liquids, wax, chemicals, teeth, blood stains, heat sources, pinch points, sharps, sand, plant or animal matter (dead or alive), exposed electrical connections.
- ▶ Exceeding allowed dimensions (school, regional, GSEF and ISEF fairs may all have different requirements).

Is a Best in Category award given in every category?

- ▶ Not always. Some categories may not have a Best in Category award in any given year. Awards are given only if the judges feel that there are exhibits of sufficient quality in the category.

What kinds of projects usually win top awards?

- ▶ Projects that discover something that we did not already know – especially if that information is useful in some way.
- ▶ Projects based on solid and sufficient data that is processed accurately and presented clearly.
- ▶ Many top winners in Senior Division have the guidance of a research professional in their field.

My friend was interviewed three times and I was interviewed eight times. Why?

- ▶ Some of the people talking with you may not have been judges. Members of the press and GSEF staff members often stop to talk with exhibitors, even though they do not "score" the project.
- ▶ Judges who have completed all their assigned interviews may chat with students whose projects interest them but whom they are not assigned to judge.
- ▶ Your topic may fit with a particular Special Award that happens to have sent lots of judges.

How many Georgia projects advance to ISEF?

- ▶ In 2019, four projects and one observer advanced from GSEF, and 28 students advanced from ISEF-affiliated Regional Fairs. ISEF delegates are selected without regard to category.