GEORGIA SCIENCE & ENGINEERING FAIR

Exhibitor Handbook

This handbook contains important information for students who have been selected from one of the 20 Regional Science & Engineering Fairs across the state to advance to the Georgia Science & Engineering Fair (GSEF) competition. GSEF will take place March 31 - April 2, 2016 at the Classic Center in downtown Athens.

To qualify for GSEF, all projects must adhere to the Intel ISEF Rules & Guidelines for scientific research protocol. These guidelines outline the precautions that must be taken and the appropriate committee approvals that must be sought *before* beginning any scientific research.

Handbook Contents

Other Resources

GSEF webpage:
- www.georgiacenter.uga.edu/gsef

ISEF Rules & Guidelines (also apply to GSEF):
- https://student.societyforscience.org/international-rules-pre-college-science-research

ISEF/GSEF Required Forms Wizard:
- https://apps2.societyforscience.org/wizard/index.asp

Questions? Contact GSEF at gsef@georgiacenter.uga.edu or 706-542-6473

Registering for GSEF

Congratulations on being selected to compete in the state finals at the Georgia Science & Engineering Fair in Athens, GA March 31 - April 2, 2016. To complete your registration for GSEF, you must submit the materials described below, called your "Registration Packet," to your Regional Fair Director. Follow all instructions from your Regional Fair Director.

Submit your Registration Packet to your Regional Fair Director IMMEDIATELY after your Regional Fair (no later than 2 school days).

Your Registration Packet must include the following items, in order:

Originals of:
1. GSEF **Registration Form** (one per project)
2. Signed **Liability Waiver** (one per student)

Photocopies of:
3. Official **Abstract**
4. **Form 1**
5. **Form 1A**
6. **Research Plan**
7. **Form 1B** (one per student)
8. Any additional **forms 1C-7** that are required for your particular research topic
9. If you need electricity at your booth, the **Electricity Request Form** and $100 check (per project)

> ***IMPORTANT***: You should also *keep* a set of photocopies of these forms in your own files. You will be required to bring the photocopies to GSEF!

Registration Payment:
10. **Registration fee ($39 per student)** if it is not already being paid by your school/district/region

You are not officially accepted to GSEF until your Regional Fair Director receives your completed Registration Packet.

REGISTRATION PROCESS: Registrations and payments will be processed as expediently as possible. Once your registration has been received and processed by the GSEF office, your project information will be added to the **List of Exhibitors** link on the GSEF website at www.georgiacenter.uga.edu/gsef. **Please check this link regularly so that you may review and correct any inaccurate information (such as misspellings of name or project title, or incorrect division or category).**

DISPLAY & SAFETY REGULATIONS: Before you come to GSEF, make sure your exhibit adheres to GSEF's **Display & Safety Regulations**. The regulations can be found on page 7 of this handbook, but here are some of the most common violations:

- **SIZE** Your exhibit must fit within the dimensions of your table space (30" deep, 48" wide, 72" tall). The space under your table may *not* be used for any part of your exhibit.

- **IMAGES, GRAPHS, TABLES** Every single graph, table, photo, and image must have a visible credit line (e.g., "Graph created by John Smith").

- **ABSTRACT** Abstracts must be vertically displayed (hanging from table front, in a glassless frame, or affixed to front of board).

- **NOT ALLOWED** The following are NOT allowed: glass, water, food, sand, anything that is or was once alive (including plants) or contains such components.

If you have questions, please visit the GSEF website at www.georgiacenter.uga.edu/gsef. Congratulations again, and we look forward to learning about your research!

Project Categories & Subcategories

Each GSEF project is entered in one of the twenty categories below. You may optionally also select a subcategory (listed in italics). Please check with those fairs for the appropriate category listings at that level of competition. If you are not sure which category to choose, ask yourself which group of judges would be most qualified to understand your research. **Every category listed below also has a subcategory option of "Other".**

ANIMAL SCIENCES

Animal Behavior
Cellular Studies
Development
Ecology
Genetics
Nutrition & Growth
Physiology
Systematics & Evolution

BEHAVIORAL & SOCIAL SCIENCES

Clinical & Developmental Psychology
Cognitive Psychology
Physiological Psychology
Sociology & Social Psychology

BIOCHEMISTRY

Analytical Biochemistry
General Biochemistry
Medicinal Biochemistry
Structural Biochemistry

BIOMEDICAL & HEALTH SCIENCES

Disease Diagnosis
Disease Treatment
Drug Development & Testing
Epidemiology
Nutrition
Physiology & Pathology

CELLULAR & MOLECULAR BIOLOGY

Cell Physiology
Genetics
Immunology
Molecular Biology
Neurobiology

CHEMISTRY

Analytical Chemistry
Computational Chemistry
Environmental Chemistry
Inorganic Chemistry
Materials Chemistry
Organic Chemistry
Physical Chemistry

COMPUTATIONAL BIOLOGY & BIOINFORMATICS

Biomedical Engineering
Computational Pharmacology
Computational Biomodeling
Computational Evolutionary Biology
Computational Neuroscience
Genomics

EARTH & ENVIRONMENTAL SCIENCES

Atmospheric Science
Climate Science
Environmental Effects on Ecosystems
Geosciences
Water Science

EMBEDDED SYSTEMS

Circuits
Internet of Things
Microcontrollers
Networking & Data Communications
Optics
Sensors
Signal Processing

ENERGY: CHEMICAL

Alternative Fuels
Computational Energy Science
Fossil Fuel Energy
Fuel Cells & Battery Development
Microbial Fuel Cells
Solar Materials

ENERGY: PHYSICAL

Hydro Power
Nuclear Power
Solar
Sustainable Design
Thermal Power
Wind

ENGINEERING MECHANICS

Aerospace & Aeronautical Engineering
Civil Engineering
Computational Mechanics
Control Theory
Ground Vehicle Systems
Industrial Engineering-Processing
Mechanical Engineering
Naval Systems

ENVIRONMENTAL ENGINEERING

Bioremediation
Land Reclamation
Pollution Control
Recycling & Waste Management
Water Resources Management

MATERIALS SCIENCE

Biomaterials
Ceramic & Glasses
Composite Materials
Computation & Theory
Electronic, Optical & Magnetic Materials
Nanomaterials
Polymers

MATHEMATICS

Algebra
Analysis
Combinatorics, Graph Theory, & Game Theory
Geometry & Topology
Number Theory
Probability & Statistics

MICROBIOLOGY

Antimicrobials & Antibiotics
Applied Microbiology
Bacteriology
Environmental Microbiology
Microbial Genetics
Virology

PHYSICS & ASTRONOMY

Astronomy & Cosmology
Atomic, Molecular, & Optical Physics
Biological Physics
Computational Physics & Astrophysics
Condensed Matter & Materials
Instrumentation
Magnetics, Electromagnetics & Plasmas
Mechanics
Nuclear & Particle Physics
Optics, Lasers, Masers
Quantum Computation
Theoretical Physics

PLANT SCIENCES

Agronomy
Ecology
Genetics/Breeding
Growth & Development
Pathology
Physiology
Systematics & Evolution

ROBOTICS & INTELLIGENT MACHINES

Biomechanics
Cognitive Systems
Control Theory
Machine Learning
Robot Kinematics

SYSTEMS SOFTWARE

Algorithms
Cybersecurity
Databases
Operating Systems
Programming Languages

Required Forms Checklist

To be eligible for competition at GSEF, all exhibitors are required to adhere to the **Intel ISEF Rules and Guidelines** for scientific research protocol. The required forms and guidelines will help you to ensure that the research you are planning is safe, ethical, and approved by a parent, a teacher, and field experts. Use the **Required Forms Wizard** tool to help you determine what forms are required for your project.

It is the responsibility of the student and the Adult Sponsor to evaluate the study to determine if the research will require forms and/or review and approval prior to experimentation, especially projects that include human participants, vertebrate animals, or potentially hazardous biological agents. You are encouraged to consult with your local SRC/IRB to ensure you have followed all rules and completed all required forms.

Failure to adhere to the Intel ISEF Rules and Guidelines may result in disqualification at any stage of the GSEF competition, including revocation of awards and honors.

Forms marked with the ♦ symbol must be signed and dated _before_ your experimentation begins.

The following forms are REQUIRED for EVERY project:	
❏ GSEF Registration Form	Provided by your RSEF Director if you are selected for GSEF
❏ GSEF Liability Waiver	Provided by your RSEF Director if you are selected for GSEF - required for every student
❏ **Official Abstract Form**	MUST be 2016 version with new 20 categories. Does not require embossing or certification.
❏ **1 Checklist for Adult Sponsor** ♦	
❏ **1A Student Checklist, Research Plan**	The Research Plan is your first step.
❏ **1B Approval Form** ♦	Signed and dated before experimentation begins and right after your SRC has reviewed forms 1, 1A, and any special forms. One form per student. SRC signs either 2a or 2b before work starts. If project goes to Regional Fair, that SRC also signs section 3 prior to that fair.

The following forms are also required for specific types of research (Use the **Required Forms Wizard**):	
❏ **1C Regulated Research Setting** ♦	Required for research done in a hospital, university, or other lab or research setting other than home, school or field.
❏ **2 Qualified Scientist** ♦	Likely required for research involving human participants, vertebrate animals, potentially hazardous biological agents, or DEA-controlled substances.
❏ **3 Risk Assessment** ♦	Recommended for everyone. Required for projects using hazardous chemicals, activities or devices and microorganisms exempt from pre-approval.
❏ **4 Human Participants and Informed Consent Form** ♦	Required for research involving human participants. Informed Consent Forms must be signed by your research participants. IRB approval is REQUIRED! See Sample Informed Consent Statement
❏ **5A/5B Vertebrate Animals** ♦	If animal research is done at home, school, or field, get SRC signatures and use 5A. If animal research is done at a regulated research institution, get IACUC approval before experiment begins and use 5B. Some questions will be answered after completion.
❏ **6A Hazardous Biological Agents** ♦	Required for research involving microorganisms, rDNA, tissue, blood, bodily fluid, etc. Approval before experiment begins, but questions may be answered after completion.
❏ **6B Human/Animal Tissue** ♦	Required in addition to 6A if research involves fresh or frozen tissue, cells, blood, bodily fluid, etc. IACUC approval before experiment begins, but questions may be answered after completion.
❏ **7 Continuation/Research Progression**	Required if project continues or expands upon a previous year's work. Also must include previous year's Abstract and Research Plan.
❏ Electricity Request Form	Required if you wish to have an electrical outlet near your table. Submit form and $100 additional fee with Registration Packet. See last page of this GSEF Exhibitor Handbook for form.

**Intel ISEF Rules and Guidelines** are located at http://member.societyforscience.org/document.doc?id=398 .

The required research forms are located at https://student.societyforscience.org/forms.

The **Required Forms Wizard** tool is located at https://apps2.societyforscience.org/wizard/index.asp

Judging Criteria

Teachers and students in Georgia should consider the following judging criteria when planning science projects and school-level fairs. These guidelines are based on the Intel ISEF criteria. ISEF and GSEF offer a second set of criteria that may be applied to projects in engineering, mathematics and computer science, where appropriate. The judging process places special emphasis on the student's ability to discuss the project effectively during the oral interview, as well as the project's demonstration of originality, creativity, imagination, discovery, and inventiveness.

Displays should serve two functions: 1) to present the research clearly when the student is not present, and 2) to guide the personal interview toward an in-depth discussion. Judges may examine the student notebook (three-ring binder), which should include at least ISEF Forms 1, 1A and 1B, the Research Proposal, any additional forms/permissions required by the specific research being conducted, and optional items such as a research paper.

Most Projects	Engineering Projects (may be applied to some projects in mathematics and computer science)
I. Research Question (10 pts) • clear and focused purpose • identifies contribution to field of study • testable using scientific methods	**I. Research Problem (10 pts)** • 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) • well-designed plan and data collection methods • variables and controls defined, appropriate and complete	**II. Design & Methodology (15 pts)** • 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) • 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)** • 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)

Poster (10 pts)
- logical organization of material
- clarity of graphics and legends
- supporting documentation well selected and displayed

Interview (25 pts)
- 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

Display & Safety Regulations

The following is a summary of common display and safety issues. For any situation not addressed here, refer to the **Intel ISEF Display & Safety Regulations** (https://student.societyforscience.org/intel-isef-display-and-safety-regulations).

DISPLAY REGULATIONS

Maximum Size of Project

Depth	(front to back)	30 inches
Width	(side to side)	48 inches
Height	(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 Abstract Form is the only abstract 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). GSEF Official 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 the Official Abstract Form** (not just the paragraph from the form).

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 three-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
- 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

Although ISEF regulations no longer require a bound log-book, judges like to see this item and it is highly recommended. Your logbook should be on your table.

Other Items on Tabletop

Other items on tabletop may include a photo album of the work, previous logbooks for Continuation projects, and items that are necessary to demonstrate the science if the board and binder are not sufficient.

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. The project title or subtitle may mention which year the project is; e.g., "Year 2." Longitudinal studies may present only conclusionary data from prior years. Continuation projects must have Form 7 taped to front of table.

Human Subject Consent Form 4

When human participants are involved in a project, their consents (Form 4, part 2) should be obtained but not displayed, as they are confidential. Place a note in your binder stating where these forms are being kept.

Allowable Handouts

The only handout allowed is an UNALTERED photocopy 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.

Graph, Image, & Photo Credits

Credits: **You must cite the source 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 examples: "All photographs by Jon Kim," or "Image from www.wherever.com."

Put the info right by the item, or, if all graphs/images were taken or created by the exhibitor or are from the same source, one clearly visible credit line or on a "tent" on the table is sufficient.

All graphs and charts created by Mary Smith

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 Form

Photos/videos of people other than the finalist are not allowed unless a signed photograph release form 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. Note: There is no specific official form for this purpose.

Mentor's Work/Acknowledgements

The mentor's name and institution must not appear anywhere on the display but can be mentioned at the end of the optional research paper in the binder. A mentor's research is *not* a part of the student research project and must *not* be included in the display. 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 didn't 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.

SAFETY REGULATIONS

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., some 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.

All other [ISEF Display and Safety Regulations](https://student.societyforscience.org/intel-isef-display-and-safety-regulations) (https://student. societyforscience.org/intel-isef-display-and-safety-regulations) regarding electricity must be followed. If you are using electricity, please be sure to read the complete rules thoroughly and follow them precisely.

Lighting

Lighting will not be approved for decorative purposes but may be approved if necessary to demonstrate the science. The Electricity Request Form and fee 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.

Lasers

Lasers may be used only when they follow the Official ISEF Rules and Regulations. Display & Safety Inspectors 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.

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.

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 to theft/damage to exhibits or parts of exhibits, including electronics, but is ultimately not responsible should theft or damage occur.

THE FOLLOWING ITEMS ARE <u>NOT ALLOWED</u> AT PROJECTS

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** (including bones, urine, bloodstains)

- **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, minerals, or waste** samples, even if fully encased in acrylic

- **All chemicals**, including water.

- **All liquids, gels, powders, and creams**, such as shampoo, sunscreen, salt, soap, agar, etc.

- **Dry ice** or other sublimating solids

- **Hazardous substances or devices**, including poisons, drugs, firearms, weapons, martial arts weapons, ammunition, etc.

- **Sharp items**, including syringes, needles, pipettes, nails, 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)

- **Hammering, pinching, or pounding devices** that are not fully immobilized, pulleys or hinges with pinch points, etc.

- **Batteries** with open-top cells

- 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:

- **Acknowledgments**, endorsements, thanks.

- **Awards**, medals, flags, logos (including school and university logos).

- **Give-away items** such as flyers, pens, postcards, CDs, business cards, etc. You may give out unaltered copies of your Official Abstract Form.

- **Contact information** of any finalist or their school: email or postal address, social media address, QR code, telephone, business card, fax number, or contact URL (URLs used solely to cite the sources of photos are permitted).

- **Active Internet** or email connections.

- For Continuation projects, no prior years' written material or visual depictions on the display board. However, previous years' logbooks and binders may be on the table if desired and if clearly marked, e.g. "Year I." The project title should mention which year the project is, e.g., "Year Two".

GSEF Attendance Policy

General 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. Neither group of judges is present in the other time slot.

Team Attendance

If the exhibit is a team project, 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, Top 10, the Pinnacle Award, and large monetary awards. This is out of respect for the award sponsors, who want 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.

Substitute Policy

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 tax paperwork to the winner to sign and return to GSEF within ten days. Awards unclaimed at the ceremony will be forfeited.

Exhibit Removal

Exhibits may not be removed until after the Awards Ceremony. This is because some awards are distributed by placing them on exhibits while the Awards Ceremony is being conducted. A student who is absent Saturday should arrange for a classmate or teacher to remove the exhibit at the assigned time. If an exhibit is removed early, honors ribbons and certain other awards will be forfeited.

GSEF *Tentative* Schedule of Events

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

THURSDAY / MARCH 31

5:30 pm – 8:30 pm   **Early Exhibit setup** - *Classic Center Exhibit Hall*
Family & friends welcome.

FRIDAY / APRIL 1

7:30 am – 9:30 am   **Exhibit setup** - *Classic Center Exhibit Hall*
Students, parents, chaperones, and guests must exit Exhibit Hall by 9:30 am.

9:30 am – 11:45 am   **FREE TIME!** Exhibitors free for an early lunch, hotel check-in, shopping, etc.

9:30 am – 5:30 pm   **Parents/chaperones free to explore Athens and UGA.**
No parents or chaperones are permitted in any part of the Classic Center building between 9:30 am and 9:30 pm today. A hospitality room with free coffee and Wi-Fi is available across the street in the Magnolia Room of the Hilton Garden Inn. *Parents/teachers, please designate a place outside of the Classic Center to meet your student(s) after 5:30 pm.*

10:00 am – 11:45 am   **Judges' Safety and Compliance Inspection of Exhibits**
Only 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 – 3:00 pm   **Exhibitors at Projects for Round 1 Interviews**
All Exhibitors must be at their exhibits. Students should be prepared to answer and ask questions, and to discuss their projects with the judges. Exhibitors & Judges only.

3:00 pm - 3:30 pm   **Student Break - Students should bring money for snacks.**
No visitors (parents/chaperones/teachers) are permitted in the building during the break.

3:30 pm - 5:30 pm   **Exhibitors at Projects for Round 2 Interviews**
Round 2 interviews with Exhibitors. All Exhibitors should be at their exhibits. Students should be prepared to discuss their projects with the judges. Exhibitors & Judges only.

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

SATURDAY / APRIL 2

9:00 am – 3:00 pm   **Exhibit Floor Open to the General Public**

1:00 pm – 3:00 pm   **All Exhibitors at Projects (Mandatory)**
All students must be at their projects to answer questions. Families and friends welcome.

4:00 pm – 6:00 pm   **Awards Ceremony** – *Classic Center Theatre*
Must be present or awards will be forfeited. Students must report to the Classic Center Atrium (across from Exhibit Hall) at 3:45 pm. Exhibits may not be removed until the conclusion the ceremony.
Guests (parents, teachers, chaperones) must have a **ticket** to enter the Awards Ceremony. Limit one guest ticket per student. Tickets may be claimed at the GSEF Help Desk Saturday morning between 10 am and 3 pm.
Livestream of Awards Ceremony will be available for viewing on electronic devices or in a viewing room on site.

6:00 pm – 8:00 pm   **Project Teardown**
Exhibits must be removed between 6 and 8 pm. Exhibits left in the Exhibit Hall after 8 pm will be removed by the clean-up crew. NO EXCEPTIONS.

6:30 pm – 7:00 pm   **ISEF Winners' Meeting** – *Classic Center Theatre Stage*
For all ISEF 2016 Delegates (Regional and GSEF)

SSP Student Science Registration

GSEF participants are strongly encouraged to register for a free SSP Student Science membership either during the school year or along with their local or regional fair registration. SSP will use SSP membership information as the principle means of determining participation levels at affiliated fairs for purposes of allocating how many science projects the fair may present at the annual Intel ISEF competition.

Students may register at **www.societyforscience.org/studentregister**. The registration form is very simple, requiring only basic information. The average time it takes to come our site, fill out the form and receive a confirmation email with a student ID number is usually less than two minutes.

At this time, GSEF only requires SSP Student Science memberships for those students who advance to the ISEF competition. However, all high school students are very strongly encouraged to register this year, as SSP registration may be required for future GSEFs. Regional fairs may have stricter requirements regarding SSP registration.

About SSP Student Science Memberships

Society for Science & the Public has developed a new program called "Student Science" aimed at helping high school students achieve excellence in inquiry-based science projects and compete in science fairs and competitions such as Intel ISEF and Intel STS. This program is open to all high school students, regardless of whether they compete at Intel ISEF, Intel STS or another science fair or competition. Membership in the program lasts until the end of the student's senior year.

Benefits for Students

The current benefits for student members include:

- Ability to participate in Intel ISEF and Intel STS competitions, if selected to do so by their local or regional SSP-affiliated fair;
- Digital badges validating their awards and achievements at SSP-affiliated fairs, as well as at Intel ISEF and Intel STS (visit badging.societyforscience.org for more information);
- Free online access to Science News, including archives;
- Rules and guidance on fair participation; and
- Access to summer science opportunities.

Additionally, SSP is in the process of developing a number of new benefits for student members, including:

- A Student Scientist profile page on the SSP website where students can display the online badges they've earned; abstracts, videos and other materials about their science projects; and their resume or other information they wish to share;
- Free or reduced subscription rates to other popular science journals;
- Access to videos with best-practices examples of winning science projects; and
- Access to a database of potential science mentors.

Eligibility

Any high school student, in the United States or abroad, may become an SSP Student Scientist.

Purpose

SSP will begin using SSP membership information as a primary means of determining participation levels at affiliated fairs, for the purpose of allocating how many science projects the fair may present at the Intel ISEF competition.

SSP manages Intel ISEF participation from more than 400 affiliated fairs in every state of the United States and in more than 70 nations. SSP believes organizing around student ID numbers will take best advantage of innovative technology in the management of fairs and will greatly improve coordination with affiliated fairs and provide benefits to science fair participants.

SSP is urging all fairs to find a way to meet this requirement and is hoping to attain 100% voluntary compliance within a year. But SSP does understand there are technical and other issues that may make compliance difficult for some fairs. In the future, SSP hopes to make SSP membership a requirement for each high school science student who participates in a local or regional SSP-affiliated fair.

Privacy

SSP observes stringent privacy standards when collecting student data and respects strict terms of usage for personal information. SSP is limiting data collection to largely publicly available information. By requiring students to register directly with SSP, affiliated fairs are not obligated to transfer data to SSP.

Moreover, SSP will not sell or hand over its lists of student members to any third party. Students, like all SSP members, may opt out of receiving SSP communications. No one under the age of 21 is solicited for donations by SSP.

This information is adapted from resources provided to Georgia Science & Engineering Fair from Society for Science & the Public.

Frequently Asked Questions

Most other questions are answered on the [GSEF website](www.georgiacenter.uga.edu/gsef) (www.georgiacenter.uga.edu/gsef) or by reading the [ISEF Rules](https://student.societyforscience.org/international-rules-pre-college-science-research) (https://student.societyforscience.org/international-rules-pre-college-science-research).

If I am selected for GSEF, do I have to attend the entire event?

- You must attend the entire judging period on Friday and the afternoon public viewing and Awards Ceremony on Saturday. Thursday 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 haven't had the opportunity to meet and interview all members.

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.
- Parents or chaperones entering the building during judging or deliberations.

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

- We may not have processed your registration yet.
- It may have gone to your 'Junk Mail' folder.
- Probably the email address on your Project Registration form was missing, illegible, or incorrect. In this case, it is your responsibility to contact us. We do not send paper confirmations. If you haven't heard from us within 11 days of being selected by your Regional Fair, email gsef@georgiacenter.uga.edu and include which Regional Fair selected you, the title of your project, and your name.

How do I know what forms I need?

- Everyone needs forms 1, 1A, 1B, and a Research Proposal. Most projects should have a safety form 3.
- You may need additional forms. Use the [Forms Wizard](http://apps.societyforscience.org/isef/students/wizard/index.asp) (http://apps.societyforscience.org/isef/students/wizard/index.asp) to determine this. If your project will involve interaction with other people, animals, bacteria, or tissues, you are very likely to need more forms.

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

- You must use *this year's* forms and know this year's schedule and rules. They can be found on the [GSEF website](www.georgiacenter.uga.edu/gsef) (www.georgiacenter.uga.edu/gsef). We update frequently, especially as the fair date approaches. Always get your forms and instructions from here or from the [ISEF website](https://student.societyforscience.org/forms) (https://student.societyforscience.org/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 the website for more.
- GSEF wants photocopies of your forms with your Registration Packet and in the binder at your exhibit; ISEF requires originals.
- GSEF uses ISEF forms 1-7 and Abstract but has different Electricity Request and Project Registration forms.
- 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.

Is every Best in Category award given out every year?

- No. They are given only if the judges feel that there are exhibits of sufficient quality in the category.

In which category should I exhibit to have the best chance of being selected to attend the Intel ISEF?

- ISEF delegates are selected without regard to category.

How many Georgia projects advance to the Intel ISEF?

- In 2015, four projects and one observer advanced from GSEF, and 25 projects advanced from ISEF-affiliated regional fairs.

What kinds of projects usually win top awards?

- Projects that discover something that we didn't 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.
- Most top winners in senior division have the guidance of a research professional in their field.

Team or individual project – how do I choose?

- Know the policies of your local and regional fairs. Each school and region decides independently whether to allow teams. Teams of over three students are always prohibited at both GSEF and ISEF.
- Some projects require expertise in more than one area; in these cases, a partner or team approach may be useful.
- In 2015, 57 special awards were restricted to only individual projects. Most scholarships, internships, and large cash prizes were limited to individual projects.

What are the most common <u>paperwork</u> 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 <u>research</u> errors?

- Insufficient data due to small sample size or too few replications/repetitions.
- Having a conclusion that doesn't 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 <u>display</u> errors?

- Forgetting to display credits for every photo, chart, and graph, even your own.
- Including an *un*official abstract on the board. Only the unaltered 8.5"x11" official abstract form may be displayed.

- Showing people in photos or videos without having their signed permission forms 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).

What are the expectations for different ages?

- Grades 3-5 are learning to accurately collect data (i.e., measure something), display that data effectively, and form a conclusion based on the data. Sometimes it is enough for them to observe and compare things without having experimental and control groups. Examples: Which stream is more polluted? Which ball bounces highest?
- 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.

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 don't "vote."
- Judges who have completed all their assigned interviews like to chat with students whose projects interest them but whom they are not assigned to judge. This is one of the perks of being a judge.
- Your topic may fit with a particular Special Award that happens to have sent lots of judges.
- You might just have a totally fascinating project.

Electricity Request Form

If you wish to access an electrical outlet at your exhibit, this Electricity Request Form must be included as part of your GSEF Project Registration Packet submitted by your Regional Fair Director. No later requests will be considered.

The request must be accompanied by a payment of $100 (may be combined in one check with your registration fee). No refunds will be made if you later decide you do not want electricity, if you cancel, or if you fail to meet any of the requirements described in this form or the GSEF and ISEF safety rules.

If you request and pay for electricity, access will be provided within 9 feet of your booth. Please bring a UL-listed extension cord, which you may or may not need to use.

Please read and follow all of the rules in the official GSEF Display and Safety Rules and the complete ISEF International Rules and Guidelines on the GSEF web site.

Any lighting must be shielded to prevent burns and so that glass from a broken bulb cannot escape. Lighting must be turned off when you are not present.

No Internet access or e-mail connectivity is allowed at exhibits.

Attempting to plug into an electrical outlet that you have not paid for may result in disqualification.

Please note that _free_ charging stations will be available somewhere in the Exhibit Hall. You may use these at no cost to charge a laptop or tablet occasionally during the event. No Electricity Request is required for this use.

Division (select one): ☐ Junior / ☐ Senior

Project Title (exact): _____

_____

Project Category: _____

Student Name (Individual or Team Leader): _____

Phone: _____   Phone #2: _____

Email Address (print clearly!): _____

The $100 electricity fee will be paid by: ☐ Regional Fair   ☐ District   ☐ School   ☐ Student   ☐ Other

I have read all of the above information and the relevant information in the GSEF Display & Safety Regulations and agree to abide by these rules.

_____   _____

Student/Team Leader Signature   Date

Please return this request and your $100 payment to your Regional Fair Director, who will submit it with your GSEF Registration Packet.

Please keep a copy of this information for your records.