How to Run a Regional Science & Engineering Fair: Organization, Management, and Compliance

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To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advancement in science.

Albert Einstein

Special thanks to regional fair directors in the state of Georgia and nationwide who have provided advice and tips over the years and who inspired the development of this handbook; the office of Academic Special Programs at the University of Georgia’s Center for Continuing Education for expertise to the regional fair; all teachers participating in fair; school administrators who strive to support the demonstration of excellence by students; all former Georgia College Fair directors who helped to build the program, especially Dr. Douglas Pohl; judges, volunteers, and Georgia College students; Qiana Wilson for legal support; the Georgia College Fair Advisory Committee: Ashley Lampp, Dr. Catrena Lisse, Shep Little, Dr. Chavonda Mills, Dr. John Hargaden, Susan McGill, Cherri Nix and Dr. Douglas Pohl; and the Georgia College Scientific Review Committee/Institutional Review Board: Dr. Robert Chandler, Dr. Bradley Koch, Clay McElheny, Susan McGill, Cherri Nix, Dr. Kenneth Saladin and Dr. Runee Sallad.
How to Use the Handbook

This handbook is designed for regional Fair directors and coordinators at schools, organizations, colleges and universities. It is intended to provide guidance and expectations for the management of your Regional Science & Engineering Fair. It is not intended to be a comprehensive guide but offers tips to individuals beginning or engaged in the journey of managing and leading an inclusive regional Fair. Each chapter highlights key components for planning, coordination, implementation, and management of an outstanding Fair. The handbook uses the standards established and recommended by the Society for Science & the Public for all regional science & engineering Fairs. Throughout the handbook, Georgia College Regional Science & Engineering Fair serves as a case study.

**Standards:** The Society for Science & the Public (SSP) has developed Indicators of Quality to show possible ways that a Fair, Fair director, board member, judge, participating teacher or student can demonstrate that a particular Standard is met. Indicators provide greater clarity regarding best practices for each standard. This handbook is crafted in the spirit of the SSP standards for managing a regional Science & Engineering Fair with a goal of improving practice. The SSP standards were used to frame the handbook and are highlighted at the end of each chapter.

**Action Steps:** Complete action steps at the end of each chapter.

**Document Appendix:** This appendix showcases a listing of samples to assist in the design of your Fair materials. Forms and templates are available online at http://regionalsciencefair.wordpress.com. The symbol indicates that related documents are available online.

**Post Your Tips:** It is our intention that this handbook will stimulate interest by Fair directors to share tips and successful practices for implementing excellent Fairs. Share your tips at regionalsciencefair.wordpress.com.

**A History of the Georgia College Regional Science & Engineering Fair:** Established in 1977, the Regional Science & Engineering Fair was created to showcase the results of scientific inquiry by elementary, middle and high school students in Central Georgia. The regional Fair serves 10 counties close to the geographic center of the state of Georgia, namely, Baldwin, Bibb, Hancock, Jasper, Jones, Putnam, Monroe, Washington, Wilkinson, and Twiggs (see Georgia Fair Regions Map – page 5).

The regional Fair is directed by the Science Education Center at Georgia College & State University. Georgia College is the state’s public liberal arts university and is located close to the geographical center of the state in Milledgeville, Ga. The Science Education Center was established in 2001 to advance access, interest, and participation in science by people of all ages and backgrounds. Resources to support the Fair are provided primarily by the Science Education Endowment at Georgia College through generous donations from the kaolin industry. Prior to coordination by the Center, the regional Fair was directed by Dr. Douglas Pohl, professor emeritus of chemistry at Georgia College. Prior, the regional Fair was coordinated by the Oconee Regional Educational Service Agency, the region’s school improvement agency.
CONTENTS

Chapter One: Mission, Action Planning:
Mission, Vision, and Goals ......................... 8

Chapter Two:
Governance and Leadership ....................... 15

Chapter Three:
Finances .................................................. 23

Chapter Four:
Fair Logistics:
Programs and Services ............................. 28

Chapter Five:
Judging and Scoring ................................. 50

Chapter Six:
Online Appendix ..................................... 56

References .............................................. 58

About the Authors ................................. 59
CHAPTER ONE

ACTION PLANNING: MISSION, VISION, AND GOALS
WHY BOTHER?
Do you have a mission statement, governance body, leadership team, or goals for your Fair? If not, this chapter is for you. Why would any Fair require these elements? When organizations thrive, several key elements are in place. There are clear guiding principles. All stakeholders understand what the organization is trying to do and achieve. High accountability and transparency are the norm. There is a focus on inclusive planning and the organization’s activities are mapped to its goals. Ideally, your Fair functions as an organization. Organizations that present a clear mission, goals and activities increase participant/stakeholder engagement as well as a strong case for funding or resource support by external entities. With the materials that you might already have, this chapter (and action steps at the end) will help you develop a coherent philosophy and framework to elevate the core values required to serve your community.

VISION/MISSION
Vision Statement: What is the “big picture” or lofty ideal for your Fair? What does success look like for your Fair? What would a successful Fair achieve for all stakeholders involved? If you can answer these questions, then you have started with the end in mind. You have just crafted your vision statement or aspirational direction for your Fair. Your vision statement may be simple and focused or may be a part of a larger vision at your institution. For example, the vision statement below captures what Georgia College's Regional Science & Engineering Fair aims to become:

A recognized leader for integrating student research and the broader science, technology, engineering, and mathematics (STEM) community at all elementary, middle, and secondary school levels in the region.

Mission Statement: Your mission statement should convey clearly what the Fair work unit is trying to do. Consider your mission statement as a Big Hairy Audacious Goal (BHAG). According to FastCompany.com, your BHAG should be "clear and compelling and serves as a unifying focal point of effort, often creating immense team spirit. It has a clear finish line so the organization can know when it has achieved the goal. A BHAG should not be a sure bet ... but the organization must believe we can do it anyway."

For example, Microsoft's BHAG reads "A computer on every desk and in every home, all running Microsoft software." Amazon's Kindle BHAG conveys "Every book ever printed, in any language, all available in less than 60 seconds." BHAG's cannot be warm, fuzzy words that have all the gloss of inspiration and none of the soul and drive of the real thing. Originally, the Georgia College mission statement was not a BHAG:

The mission of the Georgia College Regional Science & Engineering Fair is to provide all eligible K-12 students opportunities to engage in active science and engineering research and to showcase and celebrate their findings.

The simple BHAG below is an example of how the Georgia College regional Fair transformed its mission statement into a measurable, practical, ambitious one:

Every K-12 student showcasing an authentic STEM research project every year.

GOALS
You have identified your vision and mission. So what? How will you authentically realize your mission in order to meet the needs of the “who” – that is, those stakeholders that you identified in your mission statement? Well-articulated, realistic and ambitious goals will move your Fair from activities-based outcomes to learning/achievement-based results. Further, if your goals connect your Fair activities to assessment they will then create a cohesive mapping of your mission to outcomes and impact.

Designing Inclusive Goals: Inclusive goals recognize and represent the diversity of your stakeholders. Inclusive goals will unleash provocative possibilities by your students, parents, teachers, judges, volunteers, etc. For example, how will your implemented goals increase self-confidence, self-esteem and/or self-efficacy of participating students? Do your goals increase awareness of STEM and careers by participating students? Will your goals increase leadership opportunities for parents, teachers, and volunteers? Will your goals build school-community allies?
Since the outcomes to be achieved by your fair will depend on the goal(s) that you identify, it will be crucial in this step to consider carefully what you want your stakeholders to know and demonstrate within a given timeframe. Consider a range of goals that will serve or provide “helpful help.” You and your Fair governance should think about how to prioritize your goals. Identify “low-hanging fruit” goals that you have some control over (lower-order) to lofty goals that you want to achieve (higher-order). Plus, your outcomes should be measurable outcomes that focus on your “who” target audience(s). So, what are your goals? Does each goal meet the following SCHIM criteria?

- Are your goals stakeholder-centered?
- Are your goals concrete?
- Have you included high-order expectations?
- Are your goals inclusive?
- Are your goals measurable?

Here are selected goals, developed through this process, which transformed Georgia College’s regional Fair. These goals focus on student participants as the target stakeholder.

**Before** (director-centered goals)

- to advance STEM education and student achievement in the middle Georgia area
- to support the development of relevant curriculum to improve STEM education by providing Fair-related professional development
- to advocate for equity participation at the regional Fair

**After** (participant-centered goals)

- each student will develop an innovative project for presentation at the regional fair
- students will demonstrate mastery in a STEM discipline as a result of targeted STEM professional development by teachers, parents and students
- to increase the percentage of students of color participating at district and regional Fairs by 5% per year

**Tip**

Use lower- and higher-order Bloom’s Taxonomy Action Verbs to craft foundational, mediating and ultimate goals/outcomes.

**Mapping Goals to Activities**

Now what? What are your activities and for which stakeholders? Map relevant, inclusive activities to each goal to achieve your desired outcomes.

- Is this activity going to achieve the intended goal/outcome?
- Will the outcome of the activity allow for an indicator of the goal?
- Is the activity inclusive in scope?

Start thinking about how to assess the activity. Will you use surveys, rubrics, etc.? Will the assessment provide information to inform/meet the intended goal?

Chapter four provides a more detailed treatment of activities, such as teacher professional development workshops, SRC-IRB training/committee development, presentations, parent nights, afterschool projects, classroom trainings, camps, etc.
**Vision/Mission**

What is the "big picture" or lofty ideal?

**Goals**

What do you want the fair stakeholders to know and be able to do?

**Programs/Services, Activities**

What programs, services and activities meet the goals of your fair?

Do these include governance and finance activities?

**Assessment**

Did stakeholders achieve the learning goals?

Include formative and summative assessment

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**SCHIM CRITERIA:**

Goals describe what skills and dispositions you want participants/stakeholders to demonstrate by the end of a given Fair. Are your goals:

- **S** - Stakeholder-centered: Is the goal stakeholder-focused, rather than you-focused?
- **C** - Concrete: Is the goal concrete, rather than vague and abstract?
- **H** - Higher-order: Does the goal focus on higher-order skills (predict, analyze, develop or evaluate) rather than lower-order skills (list, identify, classify)?
- **I** - Inclusive: Does the goal represent and recognize the diversity of stakeholders?
- **M** - Measurable: Can you design an activity that would allow you to determine whether stakeholders have met the goal or not?
Create or revise your vision statement using the following questions:

- Is your vision statement simple, focused, aspirational?
- Does it capture the core charge of your Fair?
- Does it develop skills, dispositions and abilities by all stakeholders?
- Is it aligned with the larger vision of education at your institution/organization?

Create a simple mission statement that sets the tone for the work of your Fair:

Ponder your ambitions and then write and rewrite the BHAG until it reflects in real, printable words (and figures) the difference that you want to make. Alternatively, develop your statement with your governance board or advisory committee.

Write at least two goals for your Fair:

To begin this process, jot down the skills and dispositions that successful stakeholders (students, teachers, parents, etc.) will possess.

Next, consider the following questions that focus on the voice of your stakeholders:

- What are your Fair needs?
- What would be the greatest benefit to your institution, teachers, students?
- What do your stakeholders (students, teachers, staff, administrators, parents, volunteers, broader community) care about?
- What are your collective guiding principles?
Now, use your responses to identify your goals:

- Choose a goal from your Fair and then evaluate this goal according to the SCHIM criteria. If necessary, revise this goal.
- Or create a goal for your Fair using the SCHIM criteria.
- Craft one or two activities that meet this goal.
- Think about how you would assess your goal. How do you know your stakeholders have achieved the goal?

Multiple activities can map to each goal and multiple goals can map to a single activity.

**Choose 1 or 2 activities**

Does the stakeholder(s) do most of the thinking/work?
Are stakeholders held accountable?

**How will you know to what degree the stakeholder has achieved the goal?**

What measures will you use to assess stakeholder gains?
STANDARD FOR PHILOSOPHY/MISSION

The Standard: The science Fair has a clearly written and actively implemented statement of values/philosophy/mission. Stakeholders give input into the development of the science Fair’s philosophy/mission and understand and accept it. This document is aligned with the community served by the Fair and is reviewed periodically by stakeholder representatives.

Indicators for all science Fairs:

1.1 The science Fair has a written mission statement that is consistent with ethical norms and demonstrates respect for persons of all races, creeds, and cultures. The core values of honesty, equitable processes and educational support for all participants are embedded conceptually.

1.2 The values/philosophy/mission statement is free of contradiction, ambiguity and excessive abstraction.

1.3 The science Fair implements a periodic review of the mission relative to the work of the Fair to assess its effectiveness in fulfilling its philosophy/mission.

1.4 The science Fair's philosophy/mission is made publically available and clearly communicated including existing channels of communication such as on its Website, in brochures, promotional materials, policy and procedural handbooks and similar resources.
CHAPTER TWO

GOVERNANCE AND LEADERSHIP
GOVERNANCE AND LEADERSHIP

Regional fairs operate in the interest of the public. It is therefore critical to create transparency. A solid governance and leadership structure helps to achieve high levels of transparency, fosters accountability and promotes a productive working environment. Your governance body should comprise of individuals committed to the mission of the regional Fair and to timely and open communication with stakeholders and volunteers, and to a vision necessary for daily operations and long-term planning. The governance and leadership act ethically and consistently to assure an atmosphere of mutual respect and purposeful effort on behalf of those participating in Fair activities.

Organizational Chart: To get started, create an orgigram or organizational chart that best represents how you envision your Fair leadership and governance. Organizational charts are graphic representations of relationships between one official/unit/project, etc. to another. The value of the chart lies in your ability to visualize the complete Fair unit.

Figure 1 showcases a simple model of Fair governance and leadership. If you inherited a governance structure, think about what holes exist and how a reconfigured structure might provide enhanced transparency and accountability.

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**Figure 1.** Proposed organizational chart for Regional Science & Engineering Fairs
Board of Directors/Advisory Committee: This body provides oversight and advocacy of the Fair process and the actual event to ensure a just and ethical learning experience by all participants. It works to provide an environment of mutual respect and purposeful effort on behalf of those participating in the Fair process. Their role as supporters and promoters is to assist the Fair director in executing the best Fair possible. You may have a Fair board or advisory committee already in place. If not, decide which body will operate best within the scope of your governance structure. A board of directors controls the strategic direction of the Fair while an advisory board or committee is consultative, providing recommendations and suggestions for the Fair. Whatever body works best, ensure that members comprise of representatives of Fair stakeholders. Your board or committee is a non-compensated, volunteer body. Bylaws for this body will denote the constitution of the terms and conditions for membership. Recruit diverse members from the science and engineering community across K-12, university, business, government, and industry that have demonstrated interest in promoting education. If possible, meet with your board/committee in person or virtually at least twice per year before and after your Fair to receive direction and guidance. Make concrete proposals for resources and requests for assistance to your board or advisory committee. For inclusive outcomes, you must have diverse voices on your board/committee.

Fair Director: The director provides strategic leadership of the Fair to ensure full execution of the process and the event. The director crafts clear action plans as well as policies and procedures for the Fair process in consultation with the board/committee. The director for the regional Fair manages the activities of the Fair coordinator and consults regularly with the coordinator and other committees to guarantee successful Fair implementation and compliance. The director reports to the board/committee. At Georgia College, the regional Fair is a signature program of the Science Education Center and the center director serves as the Fair director.

Fair Coordinator: The coordinator is responsible for the management of Fair activities and reports directly to the Fair director. Keep in mind that your coordinator is a prospective Fair director, so cultivate leadership and accountability by delegating specific Fair responsibilities. Meet often to rehash tasks and entertain creative ideas and solutions. In some cases, the coordinator and director are one and the same. If that is the case, find a sympathetic colleague to designate some responsibilities for Fair.

Financial Management Committee: The reputation, integrity, fiscal responsibility and effectiveness for the regional Fair lies in the charge of the finance committee. A finance committee provides sound ethical and fiscally-responsible leadership through policies and procedures for managing and reporting on fair resources. At most organizations or at institutions of higher education, pre-existing fiscal policies will likely dictate how resources are collected, distributed, and reported. For example, the Georgia College regional Fair falls under the umbrella of the Dean’s office at the College of Arts & Sciences. If your Fair does not function within any of these structures, assist your finance committee with the development of policies for ethical and transparent resource management (see Chapter 3).

Scientific Review Committee/Institutional Review Board (SRC/IRB): The regional Fair SRC/IRB is responsible for catching any serious breach of ethical or safety protocols within a project. In so doing, the SRC/IRB protects the legal, ethical and safety interests of the regional Fair.

The SRC is a team of experts who review each project application to ensure that all safety and legal requirements are met and the appropriate forms have been completed. The committee is composed of at least one biomedical scientist, a science teacher and one other member. Similarly, the IRB reviews all proposed projects that in any way involve human beings to ensure that the project will not present an excessive amount of risk to the subjects. An IRB is composed of at least a science teacher, a school administrator and a psychologist, doctor, or nurse. At the regional level, the SRC/IRB reviews the project paperwork for compliance set by the International Rules and Guidelines for Pre-College Research and Paperwork Completion. The SRC/IRB must be intimately familiar with the ISEF Rule Book. This group may request that a student refines or changes his or her procedures for safety or ethical reasons. Therefore, the SRC/IRB chair (or co-chairs)
must develop project evaluation forms, approved by committee, for project review that is suitable for communication with exhibitors.

The SRC/IRB determines if a serious breach of ethical or safety protocol has occurred when a student executes a project. This committee can deem the project unqualified to compete at the regional Fair. Therefore, a secondary role of your SRC/IRB is to promote the formation of SRC/IRB committees within local schools and school districts. The committee should promote education on safety and ethics. School or district-level SRC/IRBs must approve procedures proposed by projects before a student begins working on the experimental portion of the project.

**Judging Committee:** Your judging committee oversees the integrity of the judging process. This body creates effective policies and procedures to ensure ethical and transparent decision-making for judging. The committee determines the minimum qualifications for judges, assigns projects to judges, assesses conflicts of interest, and ensures that enough judges are available for evaluating projects (see Chapter 5). Your judging committee should comprise of experienced judges with diverse expertise and disciplinary backgrounds. Recruit judges who have had experience with your Fair. If you have a young Fair, grow your own judging committee. Collaborate with regional Fair directors in proximity and request help recruiting experienced judges. Local schools and districts sometime have extensive relationships with community members who have experience with Fair. Tap those resources often.

**Scoring Committee:** Your scoring committee will oversee accurate data entry of project scores. This committee should be comprised of people who are not members of any other committee at your Fair in order to avoid a conflict of interest. This committee does not have to be large. However, the committee chair must be deeply committed to ethical, equitable and transparent practices.

**Event Committee and Volunteerism:** The event committee is responsible for the mechanics and implementation of the Fair showcase. Members work closely with the Fair coordinator and director to implement a detailed plan for the facilities, layout, and work flow of the event – from project check-in to project tear-down. An event committee removes the burden of Fair implementation from the Fair director so that he/she can focus on the integrity of the Fair process such as legal issues, scientific integrity and any unique challenges that may arise. The success of the event lies in the details so recruit leaders with a proven track record of accountability, ethical behavior, problem-solving, and ability to work well with others under high-stress situations. The event committee will require a number of volunteers to support the event and clear lines of communication and accountability must be sent by the committee chair for who will do what and when. A plan of action must be crafted by the committee and tasks delegated to volunteers (see chapter 4). Recruit responsible and talented friends, colleagues, and youth to assist the committee with various tasks. Include the broader community to foster a sense of ownership in this celebration. Recruit college student volunteers by appealing to faculty teaching university courses, to student clubs, or to volunteer/community engagement facilities at local college campuses. Reach out to organizations (ex. faith-based, nonprofit, and Greek life).

**Awards Committee:** This committee organizes the distribution of ribbons and coordinates the evaluation of special awards. Committee members ensure that judges apply the appropriate awards criteria in evaluating projects to ensure that award designation is ethical and accurate.

**OTHER CONSIDERATIONS**

**Legal Counsel:** Consult with your legal experts, if available, on issues pertaining to minors, volunteerism, photo and video releases, ethics, liability, and other legal concerns.

**Facilities Management:** Your events coordinating committee or chairperson holds responsibility for managing facilities.

**Diversity and Inclusion:** Put intentional strategies in place to broaden participation by students not ordinarily involved. Put intentional strategies in place to broaden participation from students and volunteers who are not ordinarily involved in the Fair. It is your responsibility to ensure that all committees are involved in this practice.
FAIR AFFILIATIONS

Regional Affiliation: The process for projects advancing to your regional Fair may vary. Projects exhibited at the regional Fair typically progress from school Fairs to district or county-wide Fairs (Figure 2). Usually, affiliation by schools and home schools to a regional Fair is designated by the state Science & Engineering Fair.

State Affiliation: Top projects, typically grades 6-12 students at your regional Fair, are eligible to advance to your state competition if your Fair is state-affiliated.

ISEF Affiliation: Any Fair affiliated with the Intel International Science & Engineering Fair (ISEF) is authorized by the nation to operate in the public interest. With affiliation, top projects from grades 9-12 are eligible to participate at ISEF.

RECOGNIZING OTHERS

In John Kotter’s Leading Change (1996), one of the eight steps to transforming an organization is celebrating quick wins. As Fair Director, find as many opportunities as possible to recognize and celebrate the good work by your committees, volunteers, and any staff members. Stop and acknowledge the work by others. Offer small tokens of appreciation.

Simple tokens include:

- Letters of recognition
- Cards to volunteers and volunteers’ supervisors
- Certificates of Appreciation
- Coffee Coupons/Gift Certificates
- Photo albums of volunteers in action
- Meals

Figure 2: Process for projects advancing from school Fair to the regional Fair and beyond
ORGANIZATIONAL CHART
Use this template (or create your own) to identify one person who will act in a leadership position for each role identified below. Remember, the goal of this exercise is to:

- distribute labor
- delegate responsibility
- engender leadership by others

Enter the name of one person you have identified to lead each committee.

SHOWING GRATITUDE
List different types of appreciation tokens for your volunteers and Fair staff, if appropriate.

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___________________________________________________________________________________

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STANDARD FOR GOVERNANCE AND LEADERSHIP

The science Fair is chartered, licensed, or authorized by a state, nation, or other authority that operates in the public interest. Science Fair governance may not be restricted to a single individual; rather, it should be a body of individuals who are committed to the mission of the organization and independent in their judgment and responsibility. Ideally, such a board of directors would be representative of the stakeholders and be a non-compensated, volunteer body with term limits. The governance and leadership ensure the integrity, effectiveness, and reputation of the Fair through the establishment of policy, provision of resources, and assurance of a Fair and just competition. The governance and leadership act ethically and consistently to assure an atmosphere of mutual respect and purposeful effort on behalf those participating in Fair activities. Fair leadership fosters a productive working environment, timely and open communication with stakeholders and volunteers, and the vision necessary for day-to-day operations and long-term planning.

Indicators for all science Fairs:

Governance and Leadership

2.1 The Fair is in compliance with all applicable statutes, ordinances, and regulations of all civil authorities of the jurisdiction in which the Fair is located.

2.2 No legal or proprietary ambiguities in ownership, control, or responsibility exist. Partnerships and any corporate linkages in ownership/governance are expressed as enforceable agreements.

2.3 The governance and leadership work cooperatively to establish and maintain clear, written policies and procedures that are consistent with the science Fair’s philosophy/mission. These policies and procedures are implemented at all times and reviewed regularly.

Governance Composition

2.4 The science Fair governance is not of a single individual, but should be a multiple-person body composed of individuals who are personally committed to the mission of the organization and possess the specific skills needed to accomplish the mission and independent in their judgment. This governance, serving as a second level of authority to Fair leadership, must have decision and policy making authority.

2.5 Where an employee of the organization is a voting member of the board, the circumstances must insure that the employee will not be in a position to exercise undue influence.

2.6 Terms of service should be established and enforced. To ensure adequate rotation of officers and board members, an organization should limit the number of consecutive terms that a board member can serve.

2.7 Governance membership should, when possible, reflect the diversity of the communities served by the organization. Advisory groups with a direct voice to the governance are encouraged when membership of the governance is restricted.

2.8 Volunteer governance members should serve without compensation for their board service. They should only be reimbursed for expenses pre-approved according to established policy and directly related to carrying out their service.
Governance Responsibilities

2.9 The governance provides the science Fair with effective leadership, support, and continuity, including succession planning to ensure stability of the Fair's leadership.

2.10 The governance thinks and acts strategically, reflecting on its decisions and the consequences of its actions.

2.11 The governance is focused on selection, evaluation, and support of the Fair director; policy development; planning; assessing the Fair's performance; and ensuring the availability of adequate resources to accomplish the philosophy/mission of the Fair.

2.12 Governance establishes policies for the effective management of the science Fair, including financial and, where applicable, personnel policies.

2.13 Governance meets as frequently as is needed to fully and adequately conduct the business of the organization.

2.14 Governance refrains from undermining the authority of the leadership to conduct the daily operation of the agency.

Leadership – Fair Director

2.15 The Fair director is either accountable to the governance and/or is responsible for ensuring proper management of the science Fair.

2.16 The Fair director ensures that all Fair programs and activities are adequately and appropriately planned, supervised, resourced, and staffed with qualified personnel/volunteers.

2.17 The Fair director undertakes operational, long range, and strategic planning to accomplish the Fair's mission and goals.

2.18 The Fair director maintains appropriate and constructive relations with the Fair's staff and volunteers and all members of the Fair's community of stakeholders, including the schools and school system to which it provides its programs and services.

2.19 The Fair director is responsible for establishing and maintaining the documentation of the operational processes of the Fair. Such documentation not only allows eases the review and modification of process, but provides appropriate succession planning as changes in staff and leadership occur.
FINANCES
Avoiding the money conversation is committing Fair suicide. Resources to carry out your Fair are critical to its success, so have the money conversations early and often.

Financial Management: You, your advisory committee, and/or your finance committee should create a Financial Plan for Fair. Here are some good elements of any plan:

- **Priorities:** Determine two to three priorities. One priority may be funding awards while another may be travel and accommodations for Intel ISEF. No matter the scope, a good solid plan guarantees good outcomes.

- **Achievable, measurable and time sensitive:** Remember, it is better to do a few things well than many things poorly. The plan should contain your measurable goals developed earlier with clear deadlines.

- **Flexible and responsive to changing conditions:** This financial plan is a road map. As with any travel, unforeseen circumstances arise. Treat these as new opportunities.

- **Short and simple:** Keep your finance plan focused on the most important things to accomplish.

- **A plan, not a menu:** Everything in the plan needs to be accomplished. Your financial plan is not a wish list.

- **A vehicle:** Your finance plan is a process, not the destination. It should always cover a time period.

Finance Policies: You, your advisory committee, and/or your finance committee should create financial policies for how your Fair will operate. The policies should reflect and complement the size and scope of your Fair. Your governing body must approve your Fair’s budget annually. Set up your financial plan so that your Fair’s financial performance is periodically reviewed and ready for a finance audit. In special cases, your Fair may need to carry liability insurance. Check with legal counsel to determine best courses of action.

Cost of Fair: Similar to any budget, make projections about the cost of each activity associated with your Fair. Craft a budget based on the priorities and goals identified. Always project a little higher than required to account for unanticipated expenses – add at least a 10 percent margin to accommodate for unforeseen needs. If you enjoy an endowment, regular donations, or unrestricted funds, then a budget is a necessity to reduce wasteful use of resources.

Recruiting Sponsors and Raising Funds: Sponsors can provide more than just funding of your Fair, so determine your resource needs early. Do you need expertise in project management, development, judging talent, or volunteers? Could your sponsors offer meals and refreshments, tokens of appreciation, Fair materials, printing services, or facilities? Each of these elements represent a substantial financial component of your Fair, so recruit sponsors wisely. If you engage in fundraising activities for Fair, your Fair Financial Plan and Fair Action Plan, as discussed in Chapter 1, is a beneficial tool for making a strong resource acquisition case. Take advantage of relationships with colleagues, friends, and community professionals that have PMI: Power, Money, and Influence.

### TYPICAL FAIR EXPENSES

**Regional Fair**
- Rentals – facilities, tables, etc.
- Ribbons
- Awards and trophies
- Tokens of Appreciation
- Refreshments and meals
- Printing
- Public Safety

**State Fair**
- Registration fee
- Travel accommodations

**International Fair**
- Affiliation fee
- Official Party
- Registration fee
- Travel accommodations
### CREATE A FINANCIAL MANAGEMENT PLAN:
Use the goals and activities to help you complete your plan.

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### BUDGET FOR FAIR:
Determine a budget for your Fair by inputting the cost of important activities first followed by secondary ones. Determine your shortfalls and begin recruiting sponsorships.

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**Total**

**Budgeted Amount**

**Difference (+/-)**
STANDARD FOR FINANCES

Financial resources must be sufficient to provide the programs that support the mission. The business practices of the science Fair are ethical, promote confidence in the science Fair’s ability to manage fiscal and material resources in a responsible manner, and follow prescribed budgeting and accounting principles. Resources raised by the science Fair are dedicated to the science Fair’s operational expenses, including those associated with attendance at the Intel ISEF as well as special initiatives that support the mission.

Indicators for all science Fairs:

Financial Management
3.1 The governance and leadership exercise prudent control over all financial operations.

3.2 Levels of income and expenditures are in appropriate balance. Current assets are sufficient to meet current liabilities.

3.3 The science Fair develops short and long range financial plans to ensure resources are available to deliver its programs and services.

3.4 The science Fair makes prudent use of resources available through development activities, grants, foundations, and other partnerships.

3.5 The science Fair has expense and travel policies that address the levels of support provided for the expenses of volunteers, staff, chaperones and others traveling or expending monies on behalf of the Fair. These policies should also articulate how the expenses of the finalists are covered and any limits or policies that have been established.

Fees/Cost of Participation
3.6 Any fees associated with participation at the science Fair are established by governance and leadership with policy that is prudent and inclusive by taking into account the ability of the student population or schools to afford. Ideally, the policy will address how those without financial capacity are able to participate while protecting their privacy.

3.7 Such fee policy is publicized in advance and schools and/or individuals participating in science Fair activities are informed of all financial obligations related to those activities prior to such participation.

3.8 The science Fair has written, reasonable, and equitable collection and refund policies. (This can include policies that limit or restrict refunds, but should be clearly articulated and publicized.)

Fundraising Activities
3.9 The science Fair has written policies in place to govern the acceptance and disposition of charitable gifts that are received in the course of its regular fundraising activities. These policies should include procedures to determine any limits on individuals or entities from which the organization will accept a gift, the purposes for which donations will be accepted, the type of property which will be accepted, and whether to accept an unusual or unanticipated gift in light of the organization’s mission and organizational capacity.

3.10 Science Fair solicitation and promotional materials will be accurate and truthful and will correctly identify the organization receiving the funds, its mission, and the intended use of the solicited funds.

3.11 All statements made by the science Fair in its fundraising appeals about the use of a contribution will be honored.
SPECIAL INDICATORS

Science Fairs operating as an independent non-profit organization
3.12 The science Fair implements written financial policies and procedures that are in accordance with accepted business practices. Such written financial policies should be adequate for the size and complexity of their organization governing: (a) investment of the assets (b) internal control procedures, (c) purchasing practices, and (d) unrestricted current net assets. The non-profit organization should periodically review its financial policies.

3.13 Those entrusted with overseeing and conducting the financial and business operations of the agency possess appropriate qualifications.

3.14 The governance annually approves the organization’s budget and periodically assesses the organization’s financial performance in relation to the budget. As part of the annual budget process, the governance should review the percentages of the organization’s resources spent on program, administration, and fundraising.

3.15 Periodic audits or financial reviews are conducted by qualified external agencies and the science Fair responds appropriately.

3.16 The science Fair carries adequate insurance coverage as assessed by the governance in light of the nature and extent of the organization’s activities and its financial capacity. A decision to forego general liability insurance coverage or Directors and officers liability insurance coverage shall only be made by the board of directors and shall be reflected in the minutes for the meeting at which the decision was made.

Science Fairs operating under the regulation of a government or university
3.17 Science Fair remains in good standing within the structure and regulations of the overseeing financial management.

3.18 In cases in which government or university policy is in direct conflict with SSP science Fair financial standards, the science Fair will cite the regulation and attempt to meet the spirit of the SSP standard as possible.
CHAPTER FOUR

FAIR LOGISTICS: PROGRAMS AND SERVICES
PRE-FAIR LOGISTICS
Conduct your Fair pre-planning logistics meeting immediately after the Fair event when every detail is fresh in your mind and in the mind of your volunteers and judges. Start by requesting feedback through as many avenues as possible. Keep copious notes throughout Fair. This increases the odds of improving your next Fair or in creating a new Fair event.

Competition Date and Location: Set a date and location for your Fair and publicize early each year. Establishing an annual timeframe for your Fair helps all constituencies to plan. At Georgia College, the regional Fair is hosted annually on the first Friday and Saturday of February, unless it conflicts with another region-wide event at the Centennial Center at Georgia College. Projects are open for public viewing at designated times. The awards ceremony for elementary grades (K-5) is held on the same day as judging while the ceremony for middle and high school participants is held the following day.

Public Relations: Publicize your Fair to bring awareness about the event and its significance to your campus and local communities. An effective marketing plan means taking advantage of various media channels to promote your event to diverse audiences before, during, and after your Fair. As the event is taking place, do not forget to chronicle it by capturing the best moments for future marketing material.

One of the best ways to illustrate what happens during your Fair is to capture highlights through photography. Photography also is one of the easiest ways to create a buzz about your event on websites, in press releases and on social media.

• Coordinate with your public relations or marketing department to have action shots taken while prepping for the event, while it is happening, and during the awards ceremony.
• Take up-close, action photos to recycle on websites, in press releases and on social media. Examples include students describing their science projects, judges evaluating projects, and volunteers helping with setup and breakdown.
• Publish images on social media to help tell the story. Photo collages of Fair events and winners make great conversation pieces on Facebook, Twitter and Instagram.

Film 30-second to minute-long highlights during your Fair. Conduct interviews with Fair participants as mini video clips. Vignettes like these provide viewers a snapshot of your Fair and serve as beneficial marketing tools for recruiting prospective judges, volunteers, and sponsors.

• Coordinate with your public relations or marketing department to create a clip explaining the significance of your Fair. Include two or three interviews with students, parents, volunteers, or directors. Clearly highlight how the event connects to the community.
• Include engaging photography and action footage to keep viewers interested from beginning to end.
• Publish the video on websites, embed the video link in press releases and share the video on social media platforms.

Use the Web to communicate mission; goals; policies and procedures; services; activities; expectations; and contact information. Populate the website with call-to-action banners, engaging Web stories and cutting-edge images before, during, and after the Fair.

• Determine what general information to include in order to reduce redundant telephone calls and emails from your stakeholders.
• Start with a simple site that identifies date, location, registration, contact information, and other general information.
• Add your philosophy/mission statement and goals.
• Build your site by adding information over time; the key to keeping your site fresh is adding new information or repurposing old information.
• Use other Fair websites for inspiration.
Georgia College’s Science Education Center will host its annual Regional Science & Engineering Fair this semester, themed “Reshaping our Future.”

Exploring everything from growing rock candy crystals to measuring the speed of light using egg whites, the fair takes place from 8 a.m. to noon Friday, Feb. 12, Saturday, Feb. 13, at Centennial Center.

“This year’s theme is twofold,” said Dr. Rosalie Richards, Kaolin Endowed Chair in Science and director of the Science Education Center at Georgia College. “First, we hope engagement in this research experience will in some way reshape how our K-12 participants view themselves as citizens. Second, our nation is in dire need of college graduates with degrees in science, technology, engineering and mathematics fields, known as STEM. The more experiences we can offer students to engage in issues of STEM that they care about the higher the likelihood of students participating in STEM disciplines.”

First- and second-place winners of junior and senior levels will advance to the State Science & Engineering Fair held Thursday, March 21, through Saturday, March 23 in Athens, Ga.

The regional fair is free and open to the public from 1 to 6 p.m. Friday.

For more information visit gcsu.edu/science or contact the Georgia Science Education Center at science@gcsu.edu or 478-445-7531.

The Science Education Center promotes access, interest and participation in science by people of all ages and backgrounds. www.gcsu.edu/science
Recycle Web information and images on various social media such as Facebook, Twitter and Instagram to bring awareness to Fair events prior, during and post Fair.

- As the event is taking place, capture images and quotes from participants to include on social media in real time.

- Recycle the results on social media in interesting ways, including photo stories, by the numbers and graphics.

- Do not hesitate to use social media to thank participants, judges, volunteers, sponsors and other supporters immediately after the event.

Visit [regionalsciencefair.wordpress.com](http://regionalsciencefair.wordpress.com) for more tips and tricks to help beef up Fair buzz.

Figure 4. Social media photo coverage

**Tip 1** - Work with your State Fair or legal counsel to develop photo/video release forms. Ensure all Fair participants, judges, volunteers, etc., endorse these forms before the Fair event.

Create customized news releases to solicit and recruit judges and volunteers for the event.

**Tip 2** - Send the following information to media of participating area schools at least two weeks prior to the event. You want to give prospective visitors adequate time to plan to attend the event:

- The press release
- Images from previous Fair events
- Web and social media links for more information
WE ARE CURRENTLY PREPARING STUDENTS FOR JOBS THAT DON’T YET EXIST, USING TECHNOLOGIES THAT HAVEN’T BEEN INVENTED, IN ORDER TO SOLVE PROBLEMS WE DON’T EVEN KNOW ARE PROBLEMS YET.

Karl Fisch
POLICIES AND PROCEDURES
Challenges create opportunities, and opportunities require action. View challenges as opportunities to create policy. Integrate policies and procedures into every aspect of your Fair to address challenges and provide opportunities for you and your Fair to grow.

Establishing Policies and Procedures:
Establish policies for as many aspects of your Fair as possible: committees, advisory boards, finances, registration, fees, voluntnerism, privacy, grievance, judging, ethics, etc. Committees should revisit, update, and vote on policies and procedures annually. The standards for regional Fairs at the end of each chapter offer aspirational targets and policies you can use.

FAQs: Create a Frequently Asked Questions listing from your policies and procedures as well as common questions from stakeholders. Put the FAQs on your website and send with application materials, if relevant, to reduce queries on common issues.

MAPPING FAIR ACTIVITIES
The size of your Fair may determine the scope of management required. Map your Fair activities to clearly visualize the work to be done and to easily delegate responsibilities (see Chapter 2).

Fair Timeline: Create a clear timeline for your Fair event. A clear timeline will afford good pacing of tasks associated with Fair. “Science Buddies” (2008) provides a step-by-step guide for planning school-based Fairs. For regional Fairs, coordination may become more extensive, depending on the involvement of the college/university in the event. At some colleges, the institution acts as host for the Fair event only with evaluation and post-Fair logistics coordinated by the school district(s). At the other end of the continuum, a regional Fair may be a full-year process, as is the case at Georgia College (Table 1).

Table 1. Georgia College’s regional fair timeline

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<tr>
<th>AUGUST</th>
<th>SEPTEMBER</th>
<th>OCTOBER</th>
<th>NOVEMBER</th>
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<tbody>
<tr>
<td>Regional Directors’ Meeting</td>
<td>Teacher-Sponsor &amp; Fair Director professional development</td>
<td>Teacher-Sponsor &amp; Fair Director professional development</td>
<td>Classroom workshops Parent Night workshops</td>
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<td>Invitations to submit entries sent to private/public, and homeschools</td>
<td>GSEF Affiliation</td>
<td>Classroom workshops Parent Night workshops</td>
<td>Recruit judges and volunteers</td>
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<tr>
<td>ADVISORY COMMITTEE</td>
<td>DECEMBER</td>
<td>JANUARY</td>
<td>FEBRAURY</td>
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<tr>
<td>Advisory Committee meeting</td>
<td>County and local Fairs Project registration closes Paperwork due RSEF planning</td>
<td>Regional Fair: first Fri/Sat Registration of state entries Return score sheet comments to schools</td>
<td>Public Relations (pre-event) Public Relations (update)</td>
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<tr>
<td>Recruit judges and volunteers</td>
<td>Conference and local Fairs</td>
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</table>

APRIL MAY JUNE JULY

ISEF planning International Science & Engineering Fair RSEF Pre-planning High school summer research programs STEM Camps High school summer research programs STEM Camps
Scheduling Activities: Gantt charts, like the one below, are used widely in project management to illustrate key activities in a schedule and provide a road map for coordinating an event.

- Alternatively, create your own Excel spreadsheet to identify each task, which will help you determine what needs to be accomplished.
- Delegate responsibilities to Fair supporters, including students, faculty, staff, and other volunteers.
- If necessary, assign dollar amounts to each activity to determine resource needs.

Logistics: Use your Gantt chart to create timeframes leading up to Fair, including month before, two weeks before, week before, week of, day before, and day of Fair. Populate each time period with important logistics to ensure smooth operations.

### Gantt Chart: Selected tasks for Regional Science & Engineering Fair

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<th>Tasks</th>
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<th>JUNE</th>
<th>MAY</th>
<th>APRIL</th>
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<td>Regional Fair Director’s annual meeting</td>
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<td>SRC/IRB Meeting - logistics for feedback to projects under development</td>
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<td>Recruit judges and volunteers</td>
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<td>Email/mall schools - invitations/request for entries</td>
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<td>Order ribbons for awards, judges, committees</td>
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<td>Conduct training workshops for teachers, classrooms, districts and parents</td>
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<td>Update training materials for judges and teacher-sponsor workshops</td>
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<td>Prepare state and ISEF invitation packages</td>
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<td>Organize materials, supplies and awards</td>
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<td>Reserve technology (notebooks/口岸) for judge’s scoring</td>
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<td>Send requests to STEM clubs and regional resources for Marketplace</td>
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<td>Open online exhibitor registration</td>
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<td>RSEF Advisory Committee meeting - Fair instructions to coordinators</td>
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<td>SRC/IRB Meeting - logistics for feedback to RSEF project entries</td>
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<td>Distribute updated Fair instructions to coordinators</td>
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<td>Create pre-Fair public relations buzz; press releases, social media</td>
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<td>Order food for judges and volunteers</td>
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<td>Reserve facilities for the subsequent year</td>
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<td>Post finalized program online; send to print shop to create program</td>
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<td>Host Regional Fair event</td>
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<td>Advisory Committee meeting - Fair rehash</td>
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<td>Press releases to local and town papers</td>
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<td>Post spreadsheet of winners and special awards online</td>
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<td>Email thank-you letters to professional judges and volunteers</td>
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<td>Mail state Fair applications and fees</td>
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<td>Send score sheets to schools</td>
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<td>Complete ISEF Official Party registration</td>
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<td>Tally and evaluate RSEF survey data</td>
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<td>Distribute volunteer sign-in sheets to faculty members</td>
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<td>Send state Fair paperwork through overnight mail</td>
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<td>Organize ISEF travel logistics (including travel package for official party)</td>
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<td>Host STEM camps, academies, and research programs to develop projects</td>
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</table>

TIP

Project™ by Microsoft and similar software packages enable users to analyze resources, budgets, and timelines. These packages can easily measure progress and anticipate resource needs using detailed and easily customizable reports.
PROFESSIONAL DEVELOPMENT

Regional Fairs that provide consistent training, outreach, and professional development to all stakeholders – students, parents, teachers, Fair directors, sponsors, etc. – invest in leadership development and trust. Therefore, professional development is the most important component of a successful fair. School teachers tend to migrate; sponsors shift their philanthropic targets; school administrators change; students move. Since a critical outcome of your professional development is to establish policies and procedures in as many areas as possible, determine needs for your Fair by continuously requesting feedback.

Professional Development Workshops: Tailor professional development workshops to meet specific needs of each constituency in your geographic territory. Make workshops highly interactive, lasting for no more than one hour. Encourage parent workshops that involve K-12 students so that parent/student teams can engage together. Some Fairs offer short courses for school Fair directors and teachers, complete with professional learning units.

The Science Education Center at Georgia College offers diverse workshops targeted to district-wide educators, school Fair directors, teacher-sponsors, K-12 students, and parents. Any stakeholder can request a workshop tailored to a target audience.

Here are some workshops that you can build or borrow:

District-wide educator workshops
- Customized workshops

Teacher-sponsor/fair director workshops
- From Alpha to Omega - Science Fair Project Simulation
- Logistics of Implementing a School Fair
- What to Expect when Implementing Science & Engineering Fair
- What happened to the Science and Engineering?
- Customized workshops

Classroom workshops
- Putting the Science/Engineering into your Science/Engineering Fair Project
- Hypothesis Building
- The Role of Variables
- Data Analysis

Parent workshops
- The A to Z of Science & Engineering Fair
- Facilitating Science & Engineering Fair at Home
Special Workshops at Fair: Set aside time during your regional Fair to work with fair directors, teacher-sponsors, and parents.

- Host discussions on successes, challenges, and solutions for the Fair process.
- Share any new Fair information from state and international levels.
- Encourage participants to offer recommendations for improving the Fair event.
- Recruit educators and students for other professional development opportunities offered by your institution.

Working with K-12 Schools: Many teachers do not enjoy the luxury of project development outside of the classroom. In some districts, science and engineering Fair projects are required by all students. Plus, for many students, the Fair process may be their first experience with a relatively lengthy project. Many students run out of steam early in the process. Here are some recommendations gathered from veteran teacher-sponsors to move the process along:

- “Chunk” the Fair process. Offer a grade for small chunks (assignments) to help students complete their Fair projects during the preparation period.
- Evaluate abstracts and research paper to determine who will prepare a poster or advance to district/region.
- Assign summer homework that involves choosing a topic and preliminary research.
- Encourage development of projects as a STEM club activity.
- Use summer camps to help students pick topics and conduct research.
- Encourage high school students to participate in summer research opportunities.
- Encourage summer team projects among students that are friends at school or neighbors.

OUTREACH
Regional Fairs provide services to populations who might not ordinarily have access. To improve outcomes for your Fair, gather expertise to deliver services to raise the intellectual possibilities of your stakeholders.

SRC/IRB at Local Schools: If you coordinate an Intel ISEF-affiliated Fair, your invitation for projects should clearly indicate the following:

- Your regional Fair requires all participating students to follow the Intel ISEF Rules and forms (appropriately modified for the younger grades)
- Your regional Fair SRC/IRB will support student research throughout the year
- Your regional Fair supports the creation of a school IRB to allow for pre-review of human participant research.

Other Outreach Activities: What do Fair participants do before or during the Initial Project Review period? Coordinate low-cost engaging STEM activities. University students are great volunteers here. Send invitations in the fall semester to club presidents, club faculty advisors, to university/regional facilities, etc. Request hands-on activities, exhibits, demonstrations, and more. Here are some examples:

- Exhibitors vote on projects: Create fun categories for Fair exhibitors to evaluate their peers. Categories such as “Grossest Project,” “I would never have thought of that,” “Sweetest Project,” “Yummiest Poster,” etc. get students interacting and getting to know one another.
- Science Magic Shows: These are usually a big hit at regional Fairs.
- STEM Brain teasers: College students can facilitate teams in riddles, problems, puzzles, etc.
- Museum or Campus tours: A great recruitment activity for university-based Fairs.

Do you have strategies to share?
Go to regionalsciencefair.wordpress.com
At Georgia College, STEM education is a vibrant component of the university culture. Faculty, students, and staff function as strong advocates before, during, and after Fair to advance access, interest, and engagement in STEM by people of all ages and backgrounds. Here are a few examples of outreach at the Georgia College Regional Science and Engineering Fair:

**Science & Engineering Marketplace:** Marketplaces are great service-learning activities for college students. At marketplace, students showcase STEM club activities as well as internship experiences from informal science education resources such as zoos, planatariums, museums, and botanical gardens. Marketplace presenters include Academic Outreach, Admissions, Association of Computing Machinery, Engineering Design, the Chemistry Club, the Geography Club, the Greenhouse Educational Program, Lockerly Arboretum, the Natural History Museum, the Society of Physics Students & Pre-Engineering Dual Degree Program, and the Science Education Center.

**Parachute Design Challenge:** The challenge of parachute design involves several variables and provides an interesting vehicle for students and teachers to interact with a broad scope of STEM content. Engineering competitions, such as a parachute design challenge, offer a venue for university faculty and students and K-12 teachers and students to work together toward a common goal. At Georgia College, the annual Parachute Design Challenge provides exhibitors and other students with an engaging activity during the Initial Project Assessment phase of Fair when only judges are allowed on the exhibition floor. Any student can participate in the Parachute Design Challenge, whether a Fair participant or not. Invite individuals or student teams to register online. Fair exhibitors register online for the competition during Fair registration; non-exhibitors register at a separate site while walk-in participants register onsite. To boost participation, the Science Education Center provides annual workshops on engineering design for regional teachers. During fall semester, middle grades teacher candidates at Georgia College prepare for the annual Parachute Design Challenge as part of their science course requirement.

Trophies are awarded to winners of the Parachute Design Challenge. The first-place trophy is awarded to each member of the team whose parachute demonstrates the longest descent time. The parachute team with the second longest descent time receives medals, and team members with the best design each receive a ribbon.
ASSESSMENT AND EVALUATION
Assessing your Fair requires the requisite tools necessary to collect the informative data useful for making your Fair better. Determining the best assessment instruments is always tricky, so use your resources to develop formative and summative assessment tools for evaluating the progress of your Fair.

Advisory Committee Meetings: Conduct at least one formal meeting per year with your advisory committee or board. Use the meeting sessions to:

• evaluate governance
• review policies and procedures
• evaluate Fair feedback
• modify and implement new Fair processes, etc.

Regional Fair Directors Meetings: Regional Fair directors’ meetings offer a wealth of information for planning your Fair. Your Fair director peers are an oasis of information and will offer practical strategies to common and unique challenges. Ask veteran regional directors to share information or for help with obstacles. For example, the Office of Academic Special Programs at the University of Georgia’s Center for Continuing Education hosts an annual regional Fair directors’ meeting in August. The meeting combines information sharing about SSP, ISEF, and the Georgia Science & Engineering Fair; policy and procedure development; Q&A sharing; and professional development.

ISEF – Symposium Sessions and Awards
Judging: If possible, attend ISEF to enrich your regional Fair implementation. Specifically, ISEF provides a number of valuable presentations and workshops for Fair directors, teachers, parents, exhibitors, and observers. If applicable, register to judge projects at ISEF. Find out if you are eligible to judge projects at ISEF to get insight into that process.

Data Collection and Evaluation: Use free web-based surveys (such as surveymonkey.com) to collect qualitative and quantitative data. If you have available volunteers, collect stories as data by interviewing exhibitors, teachers, parents, volunteers, judges, etc. If you do not have access to this type of data, collect interest data via focus groups and simple surveys in order to pre-plan.

Registration Data: Use registration data to inform planning. Online registration offers ease for analyzing registration trends to identify focus areas. For example, Table 2 shows that although the number of projects and exhibitors is increasing, the percentage of high school projects (9-12) is on a downward trend. As a result, specific efforts have been focused on increasing high school participation such as summer research programs. On the other hand, interest by grades 6-8 students is increasing after an initial dropoff. Such data provides information about materials/supplies required for the event but critical statistics to promote engineering design as part of STEM teacher professional development programs. Demographic data was not collected although a goal of Fair is promoting STEM equity.

<table>
<thead>
<tr>
<th>Measure</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>204</td>
<td>240</td>
<td>194</td>
<td>218</td>
<td>282</td>
</tr>
<tr>
<td>Projects</td>
<td>147</td>
<td>170</td>
<td>134</td>
<td>169</td>
<td>214</td>
</tr>
<tr>
<td>Grade 12 projects</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Competitive ISEF projects</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Team Projects (%)</td>
<td>30.9</td>
<td>20.0</td>
<td>29.1</td>
<td>22.4</td>
<td>24.4</td>
</tr>
<tr>
<td>Repeat participants (%)</td>
<td>24.5</td>
<td>30.0</td>
<td>30.9</td>
<td>30.4</td>
<td>42</td>
</tr>
<tr>
<td>Grades K-3 projects (%)</td>
<td>0</td>
<td>2.4</td>
<td>9.6</td>
<td>5.2</td>
<td>6.4</td>
</tr>
<tr>
<td>Grades 4-5 projects (%)</td>
<td>26.1</td>
<td>44.7</td>
<td>35.8</td>
<td>42.5</td>
<td>44.5</td>
</tr>
<tr>
<td>Grades 6-8 projects (%)</td>
<td>42.3</td>
<td>33.5</td>
<td>24.6</td>
<td>27</td>
<td>33.1</td>
</tr>
<tr>
<td>Grades 9-12 projects (%)</td>
<td>31.6</td>
<td>19.5</td>
<td>30.0</td>
<td>25.3</td>
<td>25.5</td>
</tr>
<tr>
<td>Judges (professional)</td>
<td>27</td>
<td>33</td>
<td>30</td>
<td>33</td>
<td>65</td>
</tr>
<tr>
<td>Judges (student)</td>
<td>75</td>
<td>78</td>
<td>77</td>
<td>90</td>
<td>58</td>
</tr>
<tr>
<td>Volunteers</td>
<td>131</td>
<td>121</td>
<td>172</td>
<td>142</td>
<td>134</td>
</tr>
<tr>
<td>Foot Traffic</td>
<td>500+</td>
<td>550+</td>
<td>500+</td>
<td>500+</td>
<td>650+</td>
</tr>
</tbody>
</table>

Table 2.
Georgia College regional Fair participation statistics 2010-2014

Find time during or immediately after your fair to meet with your advisory committee or board. Harness feedback while the information is fresh.
**Surveys:** Implement simple, Likert-scale surveys to gather valuable feedback from Fair participants (exhibitors, observers, Fair directors, etc.) to improve the fair process. Distribute surveys to student exhibitors at check-in. To increase responses, place a feedback box in a strategic location. Similarly, a role for exhibition floor assistants might be collecting completed surveys.

### Exhibitor/Spectator Survey

<table>
<thead>
<tr>
<th></th>
<th>I am a(n)</th>
<th># Exhibitor</th>
<th># Spectator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I had a positive experience participating in the Fair process.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>2</td>
<td>I had a great learning experience by participating in a Fair.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>3</td>
<td>The Fair process increased/confirmed my interest in STEM.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>4</td>
<td>The Fair process has allowed me to revise explanations with new knowledge.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>5</td>
<td>The Fair process has improved my ability to use evidence to make predictions.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>6</td>
<td>The Fair process has expanded my awareness of careers in STEM fields.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>7</td>
<td>The judging of my project was adequate.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>8</td>
<td>I plan to participate in the Fair process next year.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>9</td>
<td>I would encourage someone else to participate in the Fair process.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
</tbody>
</table>

**Comments:**

### Fair Director/Teacher-Sponsor Survey

<table>
<thead>
<tr>
<th></th>
<th>I am a(n)</th>
<th># Sponsoring Teacher/Fair Director</th>
<th># Chaperone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I had a positive experience participating in the Fair process.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>2</td>
<td>Our students demonstrated a strong desire to learn more about their ideas.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>3</td>
<td>The process improved our students’ ability to use evidence to make predictions.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>4</td>
<td>My school hosted a parent night about Fair.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>5</td>
<td>Professional development would improve desired outcomes for our students.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>6</td>
<td>Our school has its own SRC/IRB that reviewed projects.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>7</td>
<td>All students at my school are eligible to participate in Fair.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>8</td>
<td>I would encourage other teachers to participate in the Fair process.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>9</td>
<td>I plan to participate in the Fair process next year.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>10</td>
<td>Communications with the regional Fair office was adequate.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>11</td>
<td>The regional Fair was organized and operated smoothly.</td>
<td>Strongly Agree</td>
<td>Agree</td>
</tr>
</tbody>
</table>

**Comments:**
MAXIMIZING FAIR AFFILIATIONS

Affiliations offer you and your stakeholders access to experiences, awards, and expertise beyond your regional Fair. Consider affiliation as a critical foundation of your financial plan.

State Fair: Submit affiliation materials as quickly as possible to your state Fair office. Communicate state Fair dates to your stakeholders as early as you can since school calendars are usually pretty inflexible and teachers need to plan. Update your website and/or send out this information as soon as possible as part of your invitation to submit projects. Encourage schools to make lodging accommodations early. Remember, exhibitors will participate from near and far.

ISEF Affiliation: Submit affiliation materials as quickly as possible to your ISEF. Communicate ISEF dates to your stakeholders as early as possible since school calendars are usually pretty inflexible and teachers need to plan. Update your web site and/or send out this information as part of your invitation to submit projects. Reserve lodging accommodations as early as possible, especially if your regional Fair sponsors ISEF winners and spectators.

RECRUITING VOLUNTEERS

Fair Coordinators: Recruit persons with whom you have or had a productive working relationship, such as retired professionals, teachers, and community leaders. These stakeholders must be interested in advancing the Fair’s mission. Your Fair advisory board members can assist in some roles or recruit others. The Fair director facilitates coordinators and provides clear roles and responsibilities for each. Here are some common roles (Table 3):

- **Event Coordinator:** If at all possible, find a person with excellent project management skills to focus on activities such as event location, floor plan, movers, etc. This frees you up to worry about the integrity of the projects.
- **Judges Training Coordinator:** A judges training coordinator is responsible for developing materials for training judges before (online) and during Fair. The coordinator meets annually with the Fair director to evaluate prior year’s training events, make recommendations, and update training materials. The Fair director recruits a veteran judge for this role.
- **Lead Judge/ Judging Coordinator:** The lead judge provides guidance on project evaluation, science/engineering content, and score evaluation. The lead judge recruits and coordinates Tier II judges who evaluate projects for consistency when awards are to be made. The Fair director recruits a veteran judge for this role.
- **Safety Coordinators:** Safety coordinators evaluate Project and Display Safety during Fair. The safety coordinator trains Safety Judges to evaluate exhibits and assist exhibitors to rectify for safety concerns. College students can serve as Safety Judges. The Fair director recruits a veteran judge for this role.
- **First-Aid Coordinator:** The coordinator ensures that First-Aid Resources are available and the First-Aid booth is staffed at the Fair.
- **Exhibition Floor Coordinator:** This critical role ensures that project floor issues are identified, communicated to Fair Central, and curtailed immediately.
- **Scoring Coordinator:** Identify someone with excellent organizational and problem-solving skills to coordinate your score collection and input databases.
- **Outreach Coordinator:** The coordinator assists with planning of non-Fair activities at Fair.
- **Project Paperwork Coordinator:** Most queries on Fair arise from paperwork. Recruit someone with excellent clerical and critical-thinking skills to coordinate paperwork data entry, retrieval, evaluation, and distribution. Sometimes that may be you.
- **Event Program Coordinator:** Recruit volunteers to create Schedule of Events, floor plan, Fair history, list of projects, promotion of upcoming science and engineering events, etc.
- **Student Volunteer Coordinators:** Assign organized and responsible students as volunteer coordinators to take the lead on organizing student volunteers.
Recruiting Student Volunteers: Colleges and universities are stewards of place, and at college and university-run Fair, students volunteers comprise the bulk of Fair assistance. Students (graduate and undergraduate) may participate as a course requirement – some faculty members build credit or late passes into courses for outreach (judges/volunteers) or service learning (student judges). To increase the probability of student participation, communicate with university faculty, community centers, and volunteer offices during the summer or fall when professors and staff members are planning. Several fraternities and sororities require service as part of membership. Consider marketing your Fair as a priority activity for volunteers. Point out the benefits to the student, the institution, the community, the region and the nation, but focus on the benefit to the student. Make it easy for student volunteers to register, either at posted sign-up sheets or online. Since universities have different policies around soliciting student volunteers, find the person leading volunteerism.

Table 3. Typical Volunteer Roles and Responsibilities

<table>
<thead>
<tr>
<th>Volunteer</th>
<th>Number per shift</th>
<th>Role(s)</th>
<th>Timeframe</th>
</tr>
</thead>
</table>
| Volunteer Coordinator          | 2                | • use online volunteer registration system and sign-up sheets to organize volunteers  
• communicate with volunteers prior to Fair  
• coordinate volunteer activities during Fair | pre-Fair, during Fair          |
| Awards Assistants              | 2                | • identify and organize awards  
• create award evaluation forms for special awards  
• create awards database | pre-Fair                      |
| Fair Set-Up Assistants         | 8                | • organize exhibition floor  
• post project numbers to tables  
• organize judging room  
• organize scoring area  
• organize judges training area  
• organize project registration area  
• post signage  
• organize score sheets clipboards | pre-Fair                      |
| Photographers                  | 2                | • capture all aspects of event | during Fair                    |
| Project Check-In Assistants    | 4                | • exhibitor check-in  
• distribute badges  
• distribute programs, giveaways  
• field questions to Fair Central | before/during project set-up   |
| Safety Judges                  | 4                | • assist Safety Judge Coordinator  
• evaluate projects using safety protocols  
• post safety evaluation outcomes and actions  
• assist participants fix safety violations | before/during after project set-up |
| First Aid Assistants           | 4                | • assist FIRST-AID leader with minor injuries  
• communicate major safety issues to Fair Central | before/during project set-up   |
| Exhibition Floor Assistants    | 2                | • assist Exhibition Floor Coordinator  
• escort exhibitors to exhibition floor  
• assist with project set-up  
• collect Fair evaluation forms from exhibitor  
• give exhibitors evaluation forms, if lost | during Fair                    |
| Parachute Design Challenge Assistants | 10          | • coordinate team registration  
• manage and distribute parachute materials  
• time parachute drops  
• provide general assistance including clean-up | before/during Parachute Design Challenge |
| Marketplace Assistants         | 2                | • assist coordinators with participants | before/during Marketplace      |
| Scoring Assistants             | 6                | • assist Scoring Coordinator  
• enter data  
• cross-reference score sheet data and database  
• sort score sheets by school | during/after project evaluation |
| Clean-Up Crew                  | 2                | • clean up Centennial Center rooms  
• transport materials to Science Education Center | after project evaluation       |

Notes: *assumes two 2-hour shifts for most activities

Tip: Place a QR code on flyers to encourage judges and volunteers to register. Designate a suitable site for your Fair’s QR code. A QR Code allows Smartphone users access to Fair program updates online.
**Meals and Refreshments:** Feed your volunteers. This presents a great gesture and token of appreciation (Chapter 2). Use sponsorship, registration fees, potluck, etc. Refreshments might include breakfast pastries, fruit, coffee and juice for breakfast; or pizza, box lunches, sandwiches for lunch. Rally parents of Fair participants and sponsors to provide refreshments for volunteers.

**PROJECT RECRUITMENT AND REGISTRATION**

Solicit projects over the course of the academic year, but especially right after your Fair ends to ensure greater participation next year.

**Request for Entries:** Here are a few tips for getting information out to schools:

- If email is the best mode of communication, send save-the-date information before school pre-planning occurs to get your Fair onto school and home school calendars
- Update your website immediately after Fair with new dates, etc.
- Craft your letter requesting project entries early then highlight any Rule Book changes
- Use free Web survey sites (e.g. surveymonkey.com) to register projects
- Update FAQs to help with overarching preparation for Fair
- Use the registration data to create labeled score sheets, table numbers, floor layout, determine number of judges required, assign judges, organize the event program, etc.

**FAQs**

What inclusive strategies do you use to recruit projects to the regional Fair? Share your recruitment tips at regionalsciencefair.wordpress.com.

**Paperwork:** Paperwork evaluation typically presents a major bulk of work by a Fair. Here are a few tips for moving paperwork evaluation along:

- Use your online project registration site to harness as much information as possible before paperwork arrives
- Create a protocol for determining if you have the paperwork required; a simple tick-off sheet for you and the submitter works well

- Create a solid template for SRC/IRB review and comments; scan and send reviews via email/snail mail to exhibitors
- Evaluate projects for correct category input. Link your registration site to ISEF’s listing of categories/disciplines or list each category and discipline/sub-discipline
- Use your registration data to distribute projects for SRC/IRB evaluation
- Use your registration data to determine the scope of awards to be made based on categories of submitted projects. For example, if geology projects are absent, it is unlikely that you will need to make a geology award. However, many times, projects are not categorized correctly so pay close attention

**FAIR SET-UP**

**Facilities:** At Georgia College, the regional Fair is held in the Centennial Center sports facility. The exhibition floors are the basketball courts and Fair central is located in two classrooms (Figure 4 and Figure 5). Facilities must accommodate your Fair needs and anticipate growth. Address needs for special accommodations when determining facilities. As much as possible, keep your award ceremonies at the same facility as the exhibition location or close-by to reduce movement by participants and family members. Adequate parking is a necessary requirement.

**Fair Central:** The role of Fair Central may differ but is typically the nucleus of operation of your Fair. At some Fairs, this may be the location for paperwork and scoring. At others, it may be where participants go to solve issues that arise. Determine strategies for clear communication between Fair coordinators and Fair Central.

**Exhibition Floor Integrity:** Maintain the integrity of the exhibition floor as this is important for equity, transparency, health and reputation of your Fair. Some Fairs take place in locations that can be isolated from spectators during judging periods. Others do not. Consider recruiting volunteers to guard the rooms or areas. Hire security detail if your resources allow.
Regional Science and Engineering Fair

Junior/Senior Exhibition Floor
Exhibitors and Judges only

Parachute Design Challenge:
Open to all K-12 students including non-fair participants

Project Safety and First Aid

Exhibitor Meeting

Volunteers Check-In and Assignments

Information Booth and Help Desk

Exhibit Map

Figure 5.
Georgia College Science & Engineering Fair floor map

How to Run a Regional Science & Engineering Fair | 44 | © 2015 Georgia College
AWARDS
The highlight of the Fair for participants, family and friends is the awards ceremony. For ISEF-affiliated Fairs, the Awards Chairperson is a member of the SRC/IRB with a specific role of coordinating awards. The Awards Committee, if appropriate, identifies awards and communicates needs to the Fair director. Remember to account for team projects as they may comprise two to three team members. ISEF-affiliated Fairs receive a number of prestigious certificates, medals, gifts, and other recognitions from national professional organizations, government agencies, and industry.

Awards Organization: Endorse certificates at least two weeks prior to Fair. Use an electronic signature, if available. For special awards, work closely with the judging coordinator to identify qualified prospective judges who will competently use evaluation criteria for determining awards. Alert judges about their involvement in special awards judging ahead of time so that they can be prepared. Provide related criteria and scoring rubrics (if relevant) to special awards judges. Most importantly, ensure you receive feedback on eligible projects for awards.

See Georgia College’s Special Awards Feedback Form at regionalsciencefair.wordpress.com

Setting the Tone: Create a festive environment of celebration at the award event(s). The goal of your introductory speech is to set a celebratory tone for the awards ceremony. Therefore, it is important to prepare your speech well in advance and before the Fair pandemonium sets in. Fill in relevant information once you have specific details. An early start also encourages you to recall whom to acknowledge. If you are supervised by a CEO, manager, dean, president, for example, invite him/her to bring greetings from your organization before you speak. If you are it, request greetings by a leading sponsor or lead advisory board member. Ask your speakers to stay brief. Use time efficiently. Remember, the audience is there to see their loved ones receive an award.

Awards Ceremony: Volunteers should organize the ceremony while judging is occurring. Make sure information technology personnel ensures all technology is functional and ready well ahead of time. Recruit a volunteer photographer to capture storytelling images. Some parents, teachers, community members are talented photographers and will perform this service willingly. Entertain your audience with a slide show of Fair images, sound bites and testimonials. These clips will help connect the public to the vibrant atmosphere of the competition. Task your advisory board members with announcing award winners, passing out ribbons, shaking hands, etc. If you host other STEM competitions during Fair, use the awards ceremony to distribute prizes. To increase inclusivity, provide place ribbons for all exhibitors. Ribbons are inexpensive but signal for the recipient that the work exhibited during the competition matters.

The Georgia College Regional Science & Engineering Fair is a proud affiliate the Intel International Science & Engineering Fair. With ISEF affiliation, the regional Fair receives awards and certificates from national organizations and agencies. The level of resource support for the Fair may vary annually. During well-resourced years, prizes and awards have ranged from age-appropriate science demonstration kits; classroom science and engineering sets; state-of-the-art calculators; plaques; and cash prizes. During resource-challenged years, certificates replace gifts as awards. To advance inclusive excellence and foster community celebration of STEM, a few awards are designed to recognize winners outside of first-, second- and third-place levels. In addition, the Fair offers Exhibitor-Choice Awards where exhibitors vote for projects that are best representative of fun, creative categories. This activity is designed to promote exhibitor interactions and conversations.
WINNERS ADVANCING BEYOND THE REGIONAL FAIR

State Competition: As much as you hope to exhale, it is now time to get regional winners to state. Post all instructions for state competition at your website or link to the state competition website. Host a quick meeting with state finalists (and alternates) immediately after the awards ceremony. If possible, set up computer kiosks for state finalists to enter information to competition right after the awards ceremony. Print clear instructions about where winners should send materials, recognizing that some materials are for state while others are for regional.

ISEF: If your Fair sponsors ISEF winners and/or spectators, you are responsible for arranging and financing registration fees, round-trip travel, housing, meals, and reasonable project shipping expenses for all finalist(s) and the accompanying Adult in Charge. Schedule clear deadlines for completing ISEF logistics. Arrange a meeting for Official Party Members as soon as possible after your Fair to communicate plans.

Other Competitions: Provide as much information as possible for winners to participate in other competitions that expose them to STEM. Post names of winners and school affiliation to your website and ask new winners to contact exhibitors who participated in past competitions. Connecting past winners with new winners increases the likelihood of participation.

POST-FAIR LOGISTICS

Facility Reservations: Bring closure to your regional event as soon as possible. Make reservations for facilities for next year’s Fair before, during or immediately after your Fair event. If a rental or down-payment is required, negotiate a multi-year discount rate, a reduced down-payment (or none) or free amenities with a multi-year contract.

Public Relations: Create social media buzz by proving updates during and immediately after the awards ceremony. Student volunteers are excellent social media gurus and can help document Fair events. Send press releases with engaging photography to media outlets and other special interest groups to recognize exhibitors and winners.

Recognition Beyond the Awards Ceremony: STEM does not enjoy the same notoriety as sports, film, and music. As Fair director, extend the celebration beyond the usual awards ceremony. Here are some ideas:

- Create spreadsheets of results sorted by school and/or school districts for distribution to teacher-sponsors; district/school Fair directors; and social media managers to broadcast the list of winners;
- Send results to principals and superintendents with the names of the teacher-sponsors to recognize teachers and students.
- Distribute the list of winners to local newspapers as hometowners.
- Recognize winners at school-wide or education board meetings.
- Throw a party in honor of exhibitors. Pizza and cake are relatively inexpensive.
- Display projects in the public: school display areas, at education board offices, malls, banks, restaurants, libraries, nonprofit organizations, and places of worship.

Recognizing Volunteers, Judges and Sponsors: Your goal is to grow relationships with departments, companies, organizations, and agencies that offer volunteers and judges for your Fair. Leverage the potential PMI (power, money, influence) fruitful partnerships like these offer in advancing your BHAG.

- Provide copies of thank-you letter to managers and supervisors to express gratitude for service by employees as well as recognize the organization for support.
- Send Sign-in Sheets to faculty and staff of student volunteers and judges, especially if volunteer or service/experiential-learning or other credit is attached to the service. To ease photocopying sign-in sheets, ask volunteer coordinators to take photos of sign-in sheets and send them via email to all faculty and staff that volunteers identify for credit supervisory. Ensure that you receive a copy of the email.

Fair Rehash: Assign a single volunteer (such as an unsuspecting friend or colleague) to collect information about Fair activities – the good, bad and, ugly – as they occur. Request the same inventory from your Fair coordinators. After Fair ends, call a quick meeting to celebrate and conduct a short rehash while ideas and solutions are fresh.

Fair Paperwork to Schools: Email or snail mail copies of score sheets to schools. Do not send scores. This move is a minefield to avoid and likely fraught with legal concerns.
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<tr>
<th>Volunteer</th>
<th>Number</th>
<th>Role(s)</th>
<th>Timeframe(s)</th>
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<td>Awards Assistants</td>
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<td>Fair Set-Up Assistants</td>
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<td>Photographers</td>
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<td>Project Check-In Assistants</td>
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Notes:
Science Fair programs and services are aligned with the mission, approved by the governance, sufficiently financed, and periodically reviewed by stakeholders. They are developed to address the needs of the community and serve the entire geographic territory of the Fair. Effective policies and procedures are in place, along with materials, technology, and equipment that are appropriate, functional, and well maintained. The Fair meets the requirements of affiliation with SSP to send participants forward to the Intel ISEF.

**Indicators for all science Fairs:**

**Policies and Procedures**

4.1 The programs and services are designed in accordance with the Fair's philosophy/mission, are offered with the utmost professionalism, and respectfully serve persons of all races, creeds and cultures throughout the geographic territory of the Fair.

4.2 The science Fair has written documentation made public to all stakeholders describing science Fair programs and services that identify territory, eligibility, rules, deadlines and fees associated with participation.

4.3 The science Fair's programs, services, policies and timeline consider the various needs of those receiving the science Fair's services and programs and are compatible with timely participation in the Intel ISEF.

4.4 Written policies and procedures provide direction to the leadership, governance, and other stakeholders in the development, implementation, and improvement of the science Fair's programs and services.

**Communications/Accommodations/Customer Service**

4.5 The science Fair has established communication channels (phone, email, website, etc.) to provide information to stakeholders as well as to be available to respond to questions and requests from stakeholders.

4.6 The science Fair has a procedure to address requests for special accommodations to serve those with disabilities, religious considerations, language barriers and/or schedule conflicts. (This does not suggest that all such requests must be granted, but rather that the Fair has a process by which the leadership can thoughtfully consider such requests and/or have written policy in place to address.)

4.7 The science Fair has a grievance process to address concerns and complaints from stakeholders. This process should include concerns raised regarding eligibility, rules review, display requirements and judging.

4.8 The science Fair attempts to monitor and gather information about program participant satisfaction. This can be done through a formal survey instrument or more informally, but should be a consideration as a Fair improves through experiences and stakeholder feedback.

**Training/Outreach**

4.9 The science Fair should include in its offerings outreach and training to stakeholders throughout the geographic territory to recruit and support program participants.

**Privacy**

4.10 Science Fair will establish a privacy policy that considers the privacy of donors, participants and volunteers. Such policies should attempt to respect and safeguard the confidentiality of information that persons reasonably would expect to be private.
**Review Bodies – SRC and IRB**

4.11 The science Fair requires high school students who participate in the Intel ISEF-affiliated Fair to follow the International Rules for Precollege Science Research: Guidelines for Science and Engineering Fairs (Intel ISEF Rules) and to use Intel ISEF forms. A science Fair is encouraged to have all grade levels adhere to the International Rules and forms, but appropriately modified rules and forms for the younger grades are acceptable given that they adhere to the spirit of the International Rules.

4.12 The science Fair governance and/or leadership will appoint a Scientific Review Committee (SRC) that consists of a minimum of three members. The SRC must include at least one each of: a) biomedical scientist (e.g., Ph.D., M.D., D.V.M., D.D.S., D.O.), b) science educator, and c) another member (which may, but is not required to be, a biomedical scientist or a science educator). The SRC will be registered with SSP during the annual affiliation process.

4.13 The SRC will be operational and functioning throughout the year to support student research. There should be clear communication with stakeholders about how to have a project pre-reviewed and the timeline and deadlines for such a review.

4.14 The science Fair should support the creation of school Institutional Review Boards to allow human participant research to be pre-reviewed by the appropriate authority.

**Territory/Eligibility**

4.15 The science Fair will confirm the territory with as much detail as possible and must specify any areas or populations within the defined area that are excluded. These territories as defined may not overlap with the territory of an existing Intel ISEF-affiliated Fair, except by a state or national Fair or if otherwise granted by previous agreement.

4.16 The science Fair should consider policies involving accepting students from outside of the geographic territory of their Fair. Team projects involving students from other regions of the country and students from regions without an affiliate Fair seeking an affiliate Fair are two common requests that should be considered.

**Finalists at Intel ISEF**

4.17 The science Fair will adhere to the standard for judging in selection of students to attend the Intel ISEF. Those chosen will have been properly reviewed by the SRC and will meet all eligibility requirements of participation as stated in the International Rules.

4.18 The science Fair, through sponsors or other funding, will be responsible for arranging and financing registration fees, round trip travel, housing, meals, and reasonable project shipping expenses (or alternative onsite display arrangements) for ALL Individual and Team Finalist(s) and the Accompanying Adult in Charge. Finalist families shall not be required to pay expenses as a condition of Finalist participation. Finalists must be escorted by an accompanying Adult in Charge. If a team project is selected to compete in the Intel ISEF, all team members must be granted the opportunity to attend the competition and any costs associated with attendance must be supported by the science Fair.
CHAPTER FIVE
JUDGING AND SCORING
JUDGES
A regional Fair is only as good as the participation of competent judges. Do not underestimate the need for early and consistent judge recruitment and training. Finding competent judges is hard work. So, cast a wide net, and haul them in.

SRC/IRB – Recruitment and Coordination: Recruit diverse members from the science and engineering community across K-12, university, business, government, and industry that have demonstrated interest in promoting education. Refer to Chapter 2 for the composition and roles of the SRC/IRB.

If possible, the committee should meet in person or virtually at least twice per year to develop an implementation timeline for each year’s activities and to review projects. Committee members should vote on an SRC/IRB chair or separate chairs for the SRC and IRB. Encourage members to collaboratively craft a yearlong action plan to set clear goals for improving and communicating the following:

(1) legal and ethical education of exhibitors; and
(2) project breaches to exhibitors, teacher-sponsors, and school-level Fair directors.

Recruiting Judges: You will never have too many judges. More judges mean more exhibitor evaluations. Plus, always recruit more judges than you need. Judges are volunteers. Their plans may change because of more pressing life events and inclement weather.

Determining Judging Needs: A good rule of thumb or formula for determining your judging needs is given below:

\[
\text{Number of judges required} = \frac{\text{Number of projects} \times \text{desired number of evaluations per project}}{\text{number of evaluations assigned per judge}}
\]

So, for a 200-project Fair where you desire three project evaluations with each judge evaluating five projects, you will need a minimum of 120 judges.

✓ Recruitment Checklist

- Recruit early. Start the process at least three months prior to Fair.
- Re-recruit judges. Get commitments during your Fair for the next year.
- Ask anyone who is qualified to judge to participate.
- Develop a recruitment letter that identifies the roles of judges including the benefits to them and to STEM.
- Assign judge recruitment to a committee.
- Ask others to recruit judges from their networks.
- Provide event details to judges: location, time, and judging timeframe.
- Offer an invitation letter to prospective judges who require verification of participation for their supervisors.
- Use all of resources. Conduct research on where you might find STEM professionals: university/college faculty, staff and students; organizations; informal science education facilities; businesses; governmental agencies.
- Post links of the event with additional information: registration, training materials, scoring processes, and FAQs.
- Send customized thank-you letters to judges.
Registering Judges: Register judges with user-friendly online survey tools (e.g. surveymonkey.com, kwiksveys.com, zoomerang.com).

- Set up your survey to request contact and demographic information from judges. You can use this information for evaluation after Fair. Are judges representative of the broad STEM fields? Will you need to recruit a more diverse population of judges?
- Set up your survey to allow access to a “sortable” database; input single questions for single responses.
- Request information about each judge’s primary and secondary area of expertise. Having this information allows you or your judging committee to assign projects from different disciplinary categories to each judge.
- If your Fair hosts several divisions (e.g. elementary, junior/senior), request information from judges about the division(s) that they feel comfortable evaluating.
- Ask judges to read agree (or not) the policies for judging. Include the narrative for each policy in your registration form.
- Consistently send updates to judges, including travel information, training modules, judging materials, etc.
- Consistently request updates from judges on changes in plans.

Assigning Projects to Judges: Charge the assignment of projects to your lead judge(s)/judge coordinator(s). The goal here is for all projects to be assigned to judges with expertise in the identified project category.

- Create a grid that maps projects numbers to judges.
- Try to assign projects to judges at either elementary division or junior/senior division if your Fair serves both divisions.
- Have several eyes check and crosscheck assignments.
- Use mapping software if necessary.
- Post training materials online for judges to access before the Fair.
- Provide training packet to judges when they arrive at Fair.
- Offer training sessions for all judges at your Fair.
- Repeat training sessions for latecomers so that all judges have the same information.
- Offer background information on the Fair to help judges to become familiar with their important role.
- Communicate judging nuts and bolts to ensure ethical, timely and successful project evaluation.
- Communicate the critical importance of judging the initial project assessment and exhibitor interview.
- Conduct a training workshop: organize judges in teams to evaluate mock projects using judging criteria.
- Identify judging and exhibition floor coordinators so that judges can find help quickly.
- Request the top two/three projects among judging assignments. If relevant, alert judges evaluating both elementary and junior/senior divisions to rank projects from each division separately.
- Create a Ranking Form and print on easily identifiable colored paper.
- Pre-assign special award evaluation to judges with appropriate disciplinary expertise.
- Print special awards evaluation forms on easily identifiable colored paper.
- Post maps of exhibition floors to help judges find assigned projects.
- Assign secure spaces for judges to score projects that are not accessible by spectators.
- Alert judges to wear badges in order to access the Exhibition Floor(s).
- Recycle badges; if possible, invest in badges that can be reused annually.
- Provide separate sign-in sheets for professional and student judges.
- Request endorsement of judging policies by each judge before judging commences. This can occur online when judges register and/or when judges sign-in.
- Create sign-in sheets to reflect the time-frame students served as well as the supervisor service assignment or faculty of record for a course assignment.
JUDGING

Display and Safety Judging: All projects at regional Fairs must be evaluated for display and safety. Compliance with the ISEF Rule Book ranges from maximum size of project to the type of object that a project can display. Often, students will be required to make revisions to projects to conform to display and safety regulations. To help reduce display and safety violations, especially projects eligible for state and international competition, here are a few strategies:

- Assign a veteran judge as chief Display and Safety Judge.
- Train assistant Display and Safety Judges to evaluate all projects for correct display and safety as well as violations. STEM students make excellent display and safety judges.
- Create a Display and Safety Checklist to evaluate projects.
- Ensure each project receives a checklist endorsed by the judge. Create a Violation Alert form. Print the alert form on colored paper that is easily identifiable.
- Identify action steps to be taken to rectify the violation.
- Set up a Display and Safety Booth on the exhibition floor for exhibitors to request violation removal or ask questions.

Tier I Judging: Many regional Fairs have at least two tiers of judging. Tier I judges comprise of the body of judges at Fair while Tier II judges are veteran judges with a goal of distilling the projects evaluated to the top projects. Request that projects remain exhibited after Tier I evaluation so that Tier II judges have the time available to perform deeper assessment.

SCORING

Scoring Coordination: The scoring coordinator and scoring team have the difficult responsibility of entering scores accurately and quickly into databases and/or assessing scores entered online. Work early and consistently with your scoring coordinator to determine needs and changes as your Fair grows.

Judging & Scoring Checklist

- Assign volunteer duties to judges who have cannot perform full project evaluation.
- Ask judges to provide constructive critique to encourage exhibitors to “glow and grow”.
- Encourage judges to communicate the important relationships between the exhibitor’s project and possibilities for STEM and related careers.
- Develop simple methods to determine the status of project evaluation. For example, request judges’ initials on the table number after evaluation of a project.
- Design score sheets that are easy to navigate and score.
- Color code score sheets by broad category, if necessary. This is useful for smaller Fairs. For example, a broad category for a single color-coded score sheet is physical sciences to include chemistry, Earth and environmental sciences, energy: chemical, and physics and astronomy.
- Use color-coded score sheet to cross check against your data entry input.
- Print the exhibitor name(s), school, project title and number on each form. This makes sorting by school easy once comments need to be sent to schools.
- Prepare extra sets of score sheets to accommodate more judges than anticipate.
- Use free online tools for score entry or design your own program.
- Offer judges both paper and online options for score entry.
- Collect paper forms to crosscheck scores.
- Ask judges to consider a 5-5-5 rule: spend at minimum five minutes evaluating the project during initial assessment; five minutes interviewing the exhibitor; and five minutes scoring and providing written feedback.

Communication where judges leave return score sheets during judges training.
- Enlist volunteers to assist with score data entry.
- Sort score sheets by school while volunteers are available. This reduces post-Fair workload.
- Create a Tier II Judging Form for judges to communicate top projects eligible for awards.
STANDARD FOR JUDGING

The Standard: Judging is conducted in a Fair and ethical manner. Conflicts of interest are addressed and the process of judging and final decision making is as transparent as possible while maintaining the integrity of the process. Effective policies and procedures are in place and understood and adhered to by all involved. All of those involved in judging and in making winner selections do so with the best interest of the student participants. The decisions of judges are final.

Indicators for all science Fairs:

5.1 The science Fair will establish written policies that address minimum judge qualifications for each level of judging as well as recruitment and selection of judges per judging tier. Such policies should address how conflicts, perceived conflicts or potential conflicts of interest will be addressed and avoided. Science Fairs should use experience and expertise to govern the selection of judges, but should also consider terms of service or rotations to support new leadership and thinking.

5.2 The science Fair will establish an acceptable minimum number of judges per project to reach conclusions. A science Fair should have a minimum of two judges reviewing any project per round of judging, more, if possible.

5.3 All judges will be required to attest to a statement of ethics before serving that addresses minimally 1) serving in the best interest of Fair and just competition, 2) acknowledging any conflict of interest, 3) refraining from any harassment of another individual, and 4) the requirement to decline any payment or other considerations of value.

5.4 The role of the science Fair governance and Fair director in judging decisions should be transparent and should not undermine the decision-making of the collective body of judges. This is particularly important if such leadership has a real or perceived conflict of interest via an association with student participants or a competing school.

5.5 The science Fair will have a written judging policy that is understood and agreed upon by participants and all stakeholders. This policy will reflect the judge selection criteria and judging process and will affirm that judging decisions are final. It is suggested that parents and students understand and sign such a statement.

5.6 The science Fair will have a written grievance policy and process to address concerns raised. This process should be operational throughout the science Fair process and should make judgments or address concerns of conflict as quickly and efficiently as possible, ideally before the judging process is complete.

Special Indicators

State Fairs
Each region should furnish a certain number of qualified judges from their region to the state to ensure Fairness. The state Fair should have a policy that is public regarding the naming of Intel ISEF finalists and how those who have already been named Intel ISEF finalists are considered in judging.
Appendix A. SSP Intel ISEF Judge Ethics Statement

I hereby acknowledge that by submitting this application, I agree to serve as a judge for the 2013 Intel International Science and Engineering Fair. I agree to act in a positive and ethical manner in which each student encountered is treated fairly and respectfully. Privileged information or ideas that are obtained through my volunteer service will be kept confidential by me and I will not use such information or ideas nor disclose such information or ideas to third parties. I agree to disclose all conflicts, potential conflicts and perceived conflicts of interest resulting from direct competitive, collaborative or other relationships with any of the students and to recuse myself from judging in such circumstances. I agree to decline and report any offer of payment or other consideration of value. I acknowledge that I have read and agree to abide by the Society for Science & the Public's harassment policy protecting all Intel ISEF participants from harassment and sexual harassment by another Intel ISEF participant or other person for any reason including, but not limited to: age, national origin, race, color, religion, gender, sexual orientation, marital status, disability, ancestry and/or veteran status and understand SSP’s responsibility to investigate such claims. In conclusion, I agree to notify SSP’s Judging Coordinator immediately if I become aware of any circumstance that would potentially compromise my ability to attend the event or evaluate finalists’ projects.
Find these and other forms and templates at the blog 
http://regionalsciencefair.wordpress.com

**Event Programs**
2015 Regional Fair Program
2014 Regional Fair Program

**Working with K-12 Schools**
“Chunking” the Science or Engineering Fair Project

**Exhibitor/Project Recruitment**
Exhibitor Recruitment Memo

**Volunteer & Judge Recruitment**
Volunteer Registration Form
Judge Registration Form
Judge Response Card

**Project Evaluation**
SRC-IRB Project Evaluation Form
Display and Safety Regulation Form
Violation Alert Card
Project Number and Evaluation Completion Card
Special Award Evaluation Form
Tier I Judge Ranking Form
Score Sheet SCIENCE Projects
Score Sheet ENGINEERING Projects
REFERENCES


Kendall, S. (2002). Sharing moments of recognition every day (S’MORE). Georgia College, Milledgeville


ABOUT THE AUTHORS

Rosalie A. Richards served as director of the Georgia College & State University Regional Science & Engineering Fair 2004-2014. In 2001, she became the first Kaolin-Endowed Chair in Science and Georgia Eminent Scholar at Georgia College & State University. As kaolin chair, Richards is the founding director of the Science Education Center, a resource facility dedicated to access, interest and engagement in science by people of all ages and backgrounds. She joined the faculty of the Department of Chemistry, Physics and Astronomy at Georgia College as professor of chemistry where she taught chemistry and science education courses. Prior to Georgia College, Richards was the inaugural Model Institutions for Excellence Post-Doctoral Scholar-Teacher and assistant professor of chemistry at Spelman College. Currently, Richards serves as associate provost for faculty development at Stetson University. She is an alumna of the University of the Virgin Islands and graduated in 1990 with a bachelor of sciences degree in chemistry with physics (honors). In 1996, Richards earned her doctorate in chemistry from the University of Southern California. rosalie.richards@stetson.edu

Candace M. Morrow served as information manager at Georgia College’s Science Education Center, archiving, reporting and writing about STEM-related stories using traditional and new media. She also served as co-editor of The Nucleus, the annual newsletter of the award-winning Science to Serve Initiative at the university. Morrow is an award-winning feature and news writer, who has written for newspapers and magazines across the country. Currently, she is publications specialist in the University Relations office at Columbus State University. In this position, she spearheads the development of marketing materials such as brochures, magazines and flyers to help promote the university’s brand. A Western fashion and beauty blogger, the fourth-generation cowgirl also founded Southern Styles & Steeds. The blogazine celebrates the lifestyles of Southern cowhands. Morrow earned a bachelor’s degree in print journalism and minored in African-American studies at Georgia State University in Atlanta.