



### SPECIAL AWARDING AGENCY Judge's Manual

### **Contents**

Introduction	1
Benefits of being a Special Awarding Agency at Science & Engineering Fair of Houston	2
What are Special Awarding Agencies?	2
Special Awarding Agency Judging Procedures	3
Judge Recruitment:	3
Project Abstracts:	3
Special Awarding Agency Check-in Process:	3
Judging Criteria	4
Judging Tips for Special Awarding Agencies	5
Judges	5
Student Participants/Judge Interaction	6
Fair Project Categories	7
Dress Code	8
Awarding Recipients	8
Post Fair Follow-up	8
Fair Location	9
Fair Parking	9
Special Awarding Agency Schedule	9
Helpful Links	9
Appendix A	10
Appendix B	11
Appendix C	12
Appendix D	13
Notes	. 13

### Introduction

Every year, more than 50 professional organizations affiliate with the Science and Engineering Fair of Houston (SEFH) as Special Award Agencies (SAAs). These organizations represent government, industry, and educational institutions across a wide range of scientific disciplines.

The Special Awards Program is an essential component of the Science and Engineering Fair of Houston, enabling organizations, businesses, and individuals to support STEM education by recognizing and engaging with SEFH participants in specialized areas of interest to the sponsoring entity.

Special Awards complement the Grand Awards Program by involving more professionals, scientists, and engineers and honoring more students for their exceptional STEM achievements. Special awards can take various forms, including certificates, cash, trips, equipment, work fellowships, and internships. The criteria for these special awards are determined by the sponsoring Special Awarding Agency.

SEFH, which emphasizes inquiry-based STEM education, is the culmination of STEM fair participation, starting in individual schools and home schools, progressing through District/School Science Fairs, and culminating at SEFH. Exceptional middle and high school students from SEFH are then sponsored to compete at the Texas State Science and Engineering Fair and the International Science & Engineering Fair.

The primary objective of the Special Awards Program, in addition to rewarding students for their remarkable work in expanding their interests in STEM, is to foster peer interaction between professionals, scientists, and engineers. This interaction aims to spark student interest in STEM fields they may not have been aware of and provide a bridge for further engagement between STEM professionals and students.

Participation in the Special Awards Program is determined by individual professional organizations, businesses, or individuals and is coordinated through SEFH. The Special Awards Program is straightforward. Once an organization decides to participate, they provide an award(s), identify judges to interview the students, and present the award(s) at the Awards Ceremony.

The benefits for sponsoring organization include:

- Support for science education in the Houston Region.
- Support for individual STEM students in their STEM endeavors.
- Interaction with the top STEM students in the city and region on a peer-to-peer level.
- Offering advice and assistance to students within their areas of STEM expertise.
- Inviting students to further explore the organization's area of STEM.
- Inviting the winning students to an organizational event.

Your participation in the Special Awards program is paramount. By seeing and judging these science and engineering projects that these aspiring STEM students have created, you will be inspired and uplifted to know that the future in STEM is secured by these bright young minds.

### Benefits of being a Special Awarding Agency at Science & Engineering Fair of Houston

- Joining an exclusive group of corporations, associations, academic institutions, and other organizations that provide over \$50,000 in awards, scientific trips, internships, and scholarships annually.
- Unique one-on-one interaction with the top 1,000 young scientists and researchers in the Houston area and its surrounding counties as your employees or members serve as SEFH judges and participate in this highly regarded and rewarding process.
- A launch point for long-term relationships with designated awardees, who can become lifelong members, employees, and supporters of your organization.
- PR opportunities for your organization to showcase its support of science education, including media exposure through print, online, and social media.
- Exposure and acknowledgment on SEFH SAA website, social media, and in materials publicizing the participation and awards of your organization to the attendees, parents, and guardians of SEFH.
- Interaction and networking opportunities with an estimated 50 SAAs, including leading members of industry and academia.
- On-site and SEFH-specific benefits, including registration for SAA judges, inclusion in promotional materials, a designated meeting area, and lunch for onsite judges, and inclusion in award ceremony photography.

### What are Special Awarding Agencies?

Special Awards are granted in various disciplines by organizations ranging from the American Industrial Hygiene to the Women Engineers Society. The criteria for these awards are determined by the organizations providing the awards and may consist of a single category or several categories. Each participating organization defines the students eligible for its awards and selects the winners. Awards may include cash, scholarships, certificates, plaques, trips to a laboratory or professional meetings, subscriptions to professional journals, books, equipment, and more.

### Registration of a Special Awarding Agency

To register as a SAA, please visit the SEFH website at <u>sefhouston.org</u>. **The Lead Judge or Organizer must complete the SAA registration before recruiting judges.** 

Once an SAA has completed their registration, the Lead Judge/Organizer will be able to send a SAA Judge registration link. It will be the responsibility of the Lead Judge/Organizer to recruit judges for their special award and to send prospective judges the registration link. See Appendix A for a step-by-step guide to judge registration.

SAAs that are not pre-registered before the fair date will be allowed to judge projects at SEFH. However, they will not be mentioned at the award ceremony.

### **Special Awarding Agency Judging Procedures**

### **Judge Recruitment:**

SAAs recruit their judges to select the winners of their awards. Please note that a judge cannot serve as both a special award judge and a place award judge. All Special Awarding Judges must register their attendance before judging projects at SEFH.

The sponsoring organization, through its designated judging leader, is responsible for establishing final assignments of their judges. The SEFH abstract directory serves as the initial source of topics, titles, and location of projects. Project abstracts are sent to each SAA designated judging leader one week prior to the fair. It is the responsibility of each designated SAA leader to forward abstracts to members of the organization's judging party.

### **Project Abstracts:**

The SEFH abstract directory serves as the Initial source of topics and titles of projects cleared to compete at SEFH. Abstract directory access instructions will be sent to the SAA's designated judging leader/organizer. It Is recommended that a review of student abstracts be conducted to identify projects aligned with your organization and to reduce the number of projects your organization plans to further review on the day of the fair.

### **Special Awarding Agency Check-in Process:**

On the day of the Fair by 11:30 AM, the SAA Team Leader should pick up their Judging Record Folder from the Special Award Check in table. This folder contains a reporting sheet to provide final certification of judging results for all awards. The Special Awards Leader of each judging group is responsible for the folder. To be included in the Awards Ceremony your results must be submitted to the Check in table after 2 p.m. and before 5:00 p.m. on Saturday afternoon.

We recommend that each SAA provide a minimum of three (3) judges, although the number of judges per organization varies with the scope of the awards to be given and the number of projects to be interviewed. Team Leaders/Coordinators of Special Awards should keep in mind that judging at SEFH takes place over a relatively short period and having an adequate

number of judges will make selecting winners a less challenging task.

Judges are encouraged to come 30 minutes prior to the beginning of the Special Award Judging. Plan to arrive no later than 12:30 PM for the judges' lunch and team briefing. Student exhibitors will enter the hall at 1:15 PM and are expected to remain at their projects until 4:15 PM.

Judges should aim to allocate no more than ten minutes to each project. In the event a student is absent from their project, please notify the check-in desk. If the exhibitor cannot be located, your organization may opt to assess the project board or disqualify it from consideration for your award.

Projects, whether individual or team, should be evaluated in the same manner. If you select a project that happens to be a team project, ensure you have sufficient awards for each team member. Each project will have copies of their abstract at their project. As you interact with students, be sure to pick up a copy of the abstract for each project you are considering for an award.

### Final Certification of results is not official until the Leader has:

- Returned the Judging Record Folder and its certification sheet to the SAA check in table (Appendix B)
- Reviewed computer-generated documents to confirm proper inclusion of each award winner
- Signed and returned the printed "Award Ceremony Information Verification" sheet provided (Appendix C)

\*\*\* Final awards documentation must be received before the special awards leader leaves the judging area.

### **Judging Criteria**

Special Award Judges receive criteria and coordination instruction through the organization they represent and its designated judging Team Leader. This Team Leader is responsible for establishing final assignments of their judges.

An SAA may choose to score projects based on criteria set forth by their organization. SEFH also offers a scoring criterion, found in the "Judging Record Folder", as suggestions to aid in your judging process. The judging sheet may be helpful to you and your judges as they review the projects (Appendix D). You may also view the <u>official scoresheet</u> online. However, you are under no obligation to use the SEFH provided scoresheet, as each organization may create its own criteria to evaluate the merits of each project.

### **Judging Tips for Special Awarding Agencies**

Every SEFH affiliated SAA has its approach to judging at the fair. We provide the following tips and <u>judging criteria</u> (Appendix E) as suggested aids in your process. The following points may be beneficial to you and your judges as they evaluate the projects.

### **Judges**

- Assess the quality of the student's work and their understanding of their project and area of study. The physical display is secondary to the student's knowledge of the subject. Look for evidence of laboratory, field, or theoretical work, rather than solely library research or gadgeteering.
- Keep in mind that participating in a science fair is not just a competition; it's also an educational and motivating experience for the students. The judging interviews are often the high point of the fair experience for most students.
- Note that students may have worked on a research project for more than one year.
  However, for judging purposes, only research conducted within the current year
  should be evaluated. While previous work is important, it should not unduly
  influence the evaluation of this year's project. Refer to Form 7 displayed at their
  booth for details on previous work.
- Remember that judges represent professional authority to student participants.
   Therefore, judges should use an encouraging tone when asking questions, offering suggestions, or providing constructive feedback. Judges should avoid criticism, taking projects lightly, or displaying disinterest in projects they personally consider unimportant. Always acknowledge the student's efforts in completing a challenging task and their success in previous competitions..
- Compare projects only with those competing at this Fair and not with projects seen in other competitions or scholastic events.
- Evaluate the extent of guidance provided to the student in designing and
  implementing their research. When research is conducted in an industrial or
  institutional setting, the student should have documentation, often the ISEF Form 1C,
  that provides a platform for the mentor or supervisor to discuss the project. Judges
  should thoroughly review this information when evaluating research.

Please exercise discretion when discussing winners or making critical comments in elevators, restaurants, or other public spaces, as participants, teachers, or adult escorts may overhear. Results are confidential until they are announced at the awards ceremony. The individual judges for both Special Awards and Place Awards are responsible for ensuring that all items associated with judging, except for the official results certification, are collected and destroyed after judging.

### **Student Participants/Judge Interaction**

At SEFH, we believe that all participants are already winners. For many of these students, this day represents the culmination of a year of hard work and passion for their research. While we encourage you to delve deeply into the Participant's knowledge, it is equally important to ensure that each Participant's overall SEFH experience is positive. Keep in mind that the Participants are students taking their first steps into a STEM career, and we hope that through this competition, we can inspire them to pursue science, technology, engineering, and math.

If there is a Participant you would like to connect with regarding further research opportunities or questions about their project, please send an email to <a href="mailto:info@sefhouston.org">info@sefhouston.org</a> with the Participant's name and/or project ID. Do not leave personal business cards or contact information with the Participant or request their contact information. We will facilitate communication between you and the Participants. Participants have also been instructed not to provide personal contact information or accept contact information from others.

If at any point you observe or are informed about an unfavorable or inappropriate interaction between a judge and a Participant(s), please report this information or have the Participant(s) report it to the Associate Fair Director, who will be stationed in the judges area. It is essential to foster a climate of open communication to ensure that all participants have an enjoyable experience during judging day.

### **Fair Project Categories**

The categories listed below are those that will be used at SEFH.

Many projects could easily fit into more than one SEFH category. We highly recommend that your organization review abstracts from similar categories to determine what categories and projects to judge. For definitions of each category, visit the website <u>sefhouston.org</u>.

Life Science	Physical Science	Engineering
Animal Science	Chemistry	Aerospace Engineering
Behavioral & Social Sciences	Earth and Environmental Sciences	Biomedical Engineering
Biochemistry & Microbiology	Energy and Transportation	Chemical Engineering & Materials Science
Medicine and Health	Mathematics	Embedded Systems
Plant Sciences	Physics and Astronomy	Engineering Mechanics
	Systems Software	Environmental Engineering
		Robotics and Intelligent Machines

### **Dress Code**

Please wear professional attire or clothing associated with your specific field of work. If your organization or agency prefers, we encourage you to use clothing that highlights your affiliation with the organization. Ensure that you have comfortable footwear. Participants have been advised to wear business attire. Judging day promises excitement, but it will also be a lengthy event. It is essential to prioritize your comfort. Keep in mind that there will be limited seating available throughout the Exhibit Hall floors if necessary.

### **Awarding Recipients**

This year SEFH has made many positive changes to its educational program to support student STEM success. Notably, your organization will be prominently displayed on the event's electronic screen on both days, giving extended visibility to the community. This provides a longer time frame to publicly display your organization to all community members throughout the whole event.

Also, another change is that on Saturday, February 17, beginning at 4:00 pm, your organization is requested to present and recognize awardees. This arrangement will, in turn, allow each SAA to congratulate your recipients and provide an opportunity for photographs with your organization's representatives and awardees. Remember, if you have chosen a project that happens to be a team project, please ensure that you have an adequate number of awards for each team member.

Furthermore, the SEFH Award Ceremony has been changed so it will take place on the evening of judging thus resulting in a condensed schedule to 90 minutes. Due to this shortened timeline, the SAA awarding format has been modified where SAA award winners will stand by their seats and be recognized for their accomplishments since celebration of their award was conducted with your organization on the main judging floor.

### Post Fair Follow-up

If your organization or agency will not present awards at the fair, consider presenting your awardees with a congratulatory letter. This letter should notify the student that the organization or agency will contact them at a later time regarding the award.

Each SAA will receive a list of winners, which includes the students' names, teacher names, parent names, and email addresses. Due to FERPA rules and regulations, SEFH will not release students' personal information. It is the responsibility of each organization or agency to reach out and make arrangements with award recipients if additional communication is needed after the award ceremony.

### **Fair Location**

Fort Bend County Epicenter 28505 Southwest Fwy Rosenberg, TX 77471

### **Fair Parking**

Please check the SEFH website for parking updates.

### **Special Awarding Agency Schedule**

### **October**

<u>Special Awarding Agency portal</u> opens for registration. Please register no later than January 26, 2024.

Once an organization has registered, the Agency Lead/Organizer will be emailed a Judge Registration link. It Is the responsibility of the Lead to email the link to their judges.

All SAA judges must be registered no later than February 10, 2024.

### Saturday, February 17, 2024

Saturday, repruary 17, 4	<u>2024</u>
11:30 AM	Special Award Agency Team Leader Check-in
12:00 PM - 1:00 PM	Lunch and SAA Judge Check-In
1:15 PM - 4:15 PM	Phase II and Special Awarding Agency Judging
3:30 PM - 3:45 PM	Grand Award Judging Transition
	(Note: If a project is moved to Grand Award Judging, the project will
	not return to the judging floor.)
5:00 PM	SAA Final Submission of results
7:00 PM - 10:00 PM	Awards Ceremony

### **Helpful Links**

### SEFH website:

http://www.sefhouston.org

### SAA Information:

General Information SAA Registration Resources

### Contact SEFH:

info@sefhouston.com

### Appendix A

- 1. To register as a SAA Judge, visit: sefhouston.stemwizard.com
- 2. On the top right, select "Registration" → "Judge" and complete the form as needed. Once you have completed your registration, you may choose Login to access your account and make and necessary edits to your account.



When prompted for the "Judge Type," select "Special Awards"!



3. Once you submit, you will see your judge dashboard. On the dashboard, complete each of the circles.



To advance to the next circle, click on the "Save and Next" button.



4. Your registration is complete once all circles turn green!



### Appendix B

Seffn cience & Engineering Fair of Houston			Presented I Chevron
	SPECIAL A WINNER C	WARDING ERTIFICATION	
This cer			ure and submit this for to the SAO Check-in table
Name of Special A	winners' contact information will be sent to service and commitme Awarding Organization:	nt to the future of STE	
PROJECT ID	ABBREVIATED TITLE	PLACE (if designated)	AWARD DESCRIPTION
	Lead Judge Signature:		

### Appendix C

sefh	Category:	II. Design and Methodology V(a). Presentation: Poster
PROJECT NUMBER  1  Comments:	PROJECT TITLE	Score each project relative to total points listed.   I.   II.   III.   IV.   V.(a)   V.(b)   TOTA     10   15   20   20   10   25
2 Comments:		10 15 20 20 10 25
3 Comments:		10 15 20 20 10 25
4 Comments:		10 15 20 20 10 25
5 Comments:		10 15 20 20 10 25

	Criteria					
	I. Research Question	II. Design and Methodology	III. Execution	IV. Creativity	V(a). Presentation: Poster	V(b). Presentation: Interview
	ROJECT UMBER	PROJECT	TITLE		Score each project	relative to total points listed.    IV.   V.(a)   V.(b)   TO
6					10 15 20	20 10 25
Comi	ments:					
7					10 15 20	20 10 25
Comi	ments:				V 25V 25V 25	vvv 20
8					10 15 20	20 10 25
Comi	ments:				V -5V -5V -5	V = 0 = 0 = 0
9					10 15 20	20 10 25
Comi	ments:					
10					10 15 20	20 10 25
Comi	ments:				V = 0 V = 0 V = 0	<u> </u>
	-	JDGE SIGNATURE:				



### Appendix D Notes



# JUDGING CRITERIA FOR PROJECTS

### SCIENCE

### I. Research Question (10 points)

- clear and focused purpose
- identifies contribution to field of study
- testable using scientific methods

# II. Design and Methodology (15 points)

- well designed plan and data collection methods
- variables and controls defined, appropriate, and complete

# III. Execution: Data Collection, Analysis, and Interpretation (20 points)

- systematic data collection and analysis
- reproducibility of results
- appropriate application of mathematical and statistical methods
- sufficient data collected to support interpretation and conclusions

### IV. Creativity (20 points)

 project demonstrates significant creativity in one or more of the above criteria

### V.a. Presentation: Poster (10 points)

- logical organization of material
- clarity of graphics and legends
- supporting documentation displayed

# V.b. Presentation: Interview (25 points)

- clear, concise, thoughtful responses to questions
- understanding of basic science relevant to project
- understanding interpretation and limitations of results and conclu-Sions
- degree of independence in conducting project
- recognition of potential impact in science, society and/or econom-
- quality of ideas for further research
- for team projects, contributions to and understanding of project by all members

### ENGINEERING

Research Question (10 points)

- description of a practical need or problem to be solved
  - definition of criteria for proposed solution
- explanation of constraints

# II. Design and Methodology (15 points)

- exploration of alternatives to answer need or problem
- identification of a solution
- development of a prototype/model

# III. Execution: Construction and Testing (20 points)

- prototype demonstrates intended design
- prototype has been tested in multiple conditions/trials

### prototype demonstrates engineering skill and completeness IV. Creativity (20 points)

### above criteria

project demonstrates significant creativity in one or more of the

### V.a. Presentation: Poster (10 points)

logical organization of material clarity of graphics and legends

supporting documentation displayed

# V.b. Presentation: Interview (25 points)

clear, concise, thoughtful responses to questions

understanding of basic science relevant to project

- understanding interpretation and limitations of results and conclu-Sions
- degree of independence in conducting project
- recognition of potential impact in science, society and/or econom-
- quality of ideas for further research
- for team projects, contributions to and understanding of project by all members

SEFH Special Awarding Agency Judge Manual					