

Intel International Science and Engineering Fair 2009

Judging Guide



May 10-15, 2009

Reno-Sparks Convention Center

Reno, Nevada

Intel ISEF Judging Guide 2009—Reno, Nevada

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Introduction

The International Science and Engineering Fair (ISEF) began in 1950 as a means of encouraging pre-college students to conduct scientific research. It has grown in size and prestige to become the crowning achievement in high school science competitions. The Intel ISEF, now in its 60th year, is the only international science project competition for students in the 9th–12th grades.

The 59th ISEF held in Atlanta, Georgia in 2008 had 1,557 participants from 49 countries competing for over \$3 million in scholarships and awards. Intel has been the title sponsor for 12 years and has renewed this support for the fair through 2019. The Intel International Science and Engineering Fair is held in a different city each year and is pleased to be in Reno, Nevada for the year 2009.

Student finalists have won an all-expense paid trip to compete at the Intel ISEF. Most often, students compete initially in their school or local science fairs before advancing to the regional and/or state fair. Each Intel ISEF-affiliated fair may bring two individual finalists and one team project.

The Intel International Science and Engineering Fair is administered by Society for Science & the Public, a nonprofit corporation devoted to advancing the understanding and appreciation of science through publications and educational programs.

Intel ISEF Judges

One of the most valuable experiences for young scientists is the opportunity to discuss their research with established members of the scientific community. ISEF Finalists take great pride in their work, and judging interviews greatly contribute to the overall educational experience of the competition. Each year almost 1,500 professionals from academia, business, government, and industry volunteer their time to interview and award the world's most promising young scientists.

There are two different types of judges at the Intel ISEF: **Grand Awards** judges and **Special Awards** judges. **Grand Awards** judges interview finalists in each of 17 scientific disciplines and determine the winners for the 1st–4th place awards in each of these categories. **Special Awards** judges represent their professional organization or institution and interview finalists to determine the winners of each special award. Thus, an individual cannot serve as both a **Grand Awards** and a **Special Awards** judge. All **Grand Awards** judges should have a Ph.D., a M.D., or an equivalent degree and/or a minimum of six years related professional experience. Due to potential conflicts, affiliated science fair directors, ISEF Official Party members, and elementary or secondary school teachers are generally NOT eligible to serve as Intel ISEF judges. **Judging at the Intel ISEF will take place in the afternoon and evening of Tuesday, May 12, 2009 and all day on Wednesday, May 13, 2009 at the Reno-Sparks Convention Center in Reno, Nevada.**

Grand Awards Judges

Grand Award judges select the winners of the grand awards presented in each of the 17 Intel ISEF categories and in the Team Projects category. These awards are given to the best of category and for first, second, third, and fourth places in each category. The actual number of awards is determined by the number of entries in that category. Approximately 25% of all qualified projects exhibiting at the Intel ISEF are given grand awards. Awards are \$5,000 for Best of Category, \$3,000 for First Place, \$1,500 for Second Place, \$1,000 for Third Place and \$500 for Fourth Place. The Best of Category award is given to one of the First Place winners in each of the categories.

Grand Awards judges are recruited by the Host City Judging Committee in consultation with Society for Science & the Public. This committee is comprised of a General Judging Chair(s) and the Category Co-chairs representing the 17 scientific disciplines. The Judging Chairpersons have the overall responsibility of selecting the Category Co-chairs, providing the strategy, leadership and impetus for recruiting, and for being the persons primarily responsible for the approval of all **Grand Awards** judges.

Society for Science & the Public (SSP) is responsible for assigning **Grand Awards** judging interviews. When judging is completed, SSP documents **Grand Awards** scoring, provides related statistics for review, and receives the final certification of winners from the **Grand Awards** Category Co-Chairs.

In order to effectively carry out their judging duties, **Grand Awards** judges are strongly encouraged to preview Finalists' projects within their category on Tuesday afternoon. Each **Grand Awards** judge typically conducts ten to fourteen 15-minute interviews scheduled during the seventeen interview periods spread across two judging sessions.

Grand Awards judges should plan to be present through the afternoon and evening on Tuesday and all day on Wednesday as per the judging schedule discussed later in this document.

Special Awards Judges

Each year over 70 professional organizations, representing a wide variety of scientific disciplines, affiliate with the Intel ISEF to participate as ***Special Awards*** Sponsors. These governmental, industrial and educational institutions present award monies, scholarships, plaques, summer internships, scientific field trips, subscriptions to professional journals, books and equipment grants to their selected winners at the Intel ISEF.

Special Awards judges are recruited by the sponsoring organization to choose the winners of their awards. The number of judges per organization varies with the scope of the award and the number of finalists to be interviewed. Coordinators of ***Special Awards*** should keep in mind that judging at the Intel ISEF takes place over a relatively short period of time and a sufficient number of judges will make selecting winners a less arduous task. ***Special Awards*** judges do not receive computer generated schedules and are asked to interview Finalists during those periods designated exclusively for ***Special Awards*** judges interviews or during an open interview period for the respective finalist. For the convenience of all judges, a complete list of Finalists' open interview periods will be posted in the HUB area of the Exhibit Hall, in the area outside of the Judging Control Center (Hall 1C) and at the ***Special Awards*** Judging Central desk in Hall 1A-1B at approximately 8:30 p.m. on Tuesday, May 12, 2009.

Special Awards organizations are also asked to select a representative to attend the ***Special Awards*** Ceremonies on Thursday, May 14, 2009. These representatives will greet winning finalists as they are called to the stage and to pose for photographs shortly afterward. For presentation and photographic purposes, we advise ***Special Awards*** representatives to have an envelope, plaque, or certificate to present to the winners on stage.

Society for Science & the Public assists with pre-fair coordination of ***Special Awards*** organizations and their judges by supplying information on housing, travel, and providing an on-line ***Special Awards*** pre-registration procedure. Society for Science & the Public is responsible for collecting and documenting final certification of ***Special Awards*** results.

Judging Guidelines

Suggested Evaluation Criteria for Judging

While judges have the latitude to determine how to establish their own score using a 100-point scale, the following is suggested as a guideline for point distribution. Points are assigned to creative ability, scientific thought or engineering goals (II a. and b. respectively), thoroughness, skill, and clarity. Team projects have a slightly different balance of points that includes points for teamwork. A chart of these point values is located at the end of these criteria and again in Appendix Two for easy reference. Following is a list of questions for each set of criteria that can assist you in interviewing the finalists and aid in your evaluation of the finalists' projects.

I. Creative Ability (Individual—30, Team—25)

- 1) Does the project show creative ability and originality in the questions asked?
 - a. in the approach to solving the problem?
 - b. in the analysis of the data?
 - c. in the interpretation of the data?
 - d. in the use of equipment?
 - e. in the construction or design of new equipment?
- 2) Creative research should support an investigation and help answer a question in an original way.
- 3) A creative contribution promotes an efficient and reliable method for solving a problem. When evaluating projects, it is important to distinguish between gadgeteering and ingenuity.

II a. Scientific Thought (Individual—30, Team—25)

(If an engineering project, please see IIb. Engineering Goals.)

- 1) Is the problem stated clearly and unambiguously?
- 2) Was the problem sufficiently limited to allow plausible attack? Good scientists can identify important problems capable of solutions.
- 3) Was there a procedural plan for obtaining a solution?
- 4) Are the variables clearly recognized and defined?
- 5) If controls were necessary, did the student recognize their need and were they used correctly?
- 6) Are there adequate data to support the conclusions?
- 7) Does the finalist/team recognize the data's limitations?
- 8) Does the finalist/team understand the project's ties to related research?
- 9) Does the finalist/team have an idea of what further research is warranted?
- 10) Did the finalist/team cite scientific literature, or only popular literature (e.g, local newspapers, magazines)?

II b. Engineering Goals (Individual—30, Team—25)

- 1) Does the project have a clear objective?
- 2) Is the objective relevant to the potential user's needs?
- 3) Is the solution: workable? acceptable to the potential user? economically feasible?
- 4) Could the solution be utilized successfully in design or construction of an end product?
- 5) Is the solution a significant improvement over previous alternatives or applications?
- 6) Has the solution been tested for performance under the conditions of use?

III. Thoroughness (Individual—15, Team—12)

- 1) Was the purpose carried out to completion within the scope of the original intent?
- 2) How completely was the problem covered?
- 3) Are the conclusions based on a single experiment or replication?
- 4) How complete are the project notes?
- 5) Is the finalist/team aware of other approaches or theories?
- 6) How much time did the finalist or team spend on the project?
- 7) Is the finalist/team familiar with scientific literature in the studied field?

IV. Skill (Individual—15, Team—12)

- 1) Does the finalist/team have the required laboratory, computation, observational and design skills to obtain the supporting data?
- 2) Where was the project performed? (i.e., home, school laboratory, university laboratory) Did the student or team receive assistance from parents, teachers, scientists or engineers?
- 3) Was the project completed under adult supervision, or did the student/team work largely alone?
- 4) Where did the equipment come from? Was it built independently by the finalist or team? Was it obtained on loan? Was it part of a laboratory where the finalist /team worked?

V. Clarity (Individual—10, Team—10)

- 1) How clearly does the finalist or team discuss his/her/their project and explain the purpose, procedure, and conclusions? Watch out for memorized speeches that reflect little understanding of principles.
- 2) Does the written material reflect the finalist's or team's understanding of the research?
- 3) Are the important phases of the project presented in an orderly manner?
- 4) How clearly are the data presented?
- 5) How clearly are the results presented?
- 6) How well does the physical display explain the project?
- 7) Was the presentation done in a forthright manner, without tricks or gadgets?
- 8) Did the finalist/team perform all the project work, or did someone help?

VI. Teamwork (Team Projects only—16)

- 1) Are the tasks and contributions of each team member clearly outlined?
- 2) Was each team member fully involved with the project, and is each member familiar with all aspects of the project?
- 3) Does the final work reflect the coordinated efforts of all team members?

POTENTIAL MAXIMUM SCORE CHART	Individual	Team
Creative Ability	30 points	25 points
Scientific Thought / Engineering Goals	30 points	25 points
Thoroughness	15 points	12 points
Skill	15 points	12 points
Clarity	10 points	10 points
Teamwork	—	16 points
Total Possible Score	100 points	100 points

When submitting the score for each Finalist's project, you must enter only the cumulative score on the scan card for that finalist.

The maximum score a Finalist can obtain is 100.

Judging Tips

- Compare projects only with those competing at this Intel ISEF and not with projects seen in other competitions or scholastic events.
 - Look for evidence of laboratory, field or theoretical work, not just library research or gadgeteering.
 - Observational projects or projects with “negative” results are not necessarily bad science.
 - The physical display is secondary to the student’s knowledge of the subject.

- Finalists may have worked on a research project for more than one year.
 - If the project is a multi-year effort, the Finalist is required to have an ***Intel ISEF Continuation Projects Form 7*** visible at the project. However, please be aware that the **ONLY** work being judged and discussed in caucusing should have been completed in the current year research period.
 - The project abstract is a valuable source of information regarding the finalist’s current year project and research.

- As a general rule, judges represent professional authority to Finalists. For this reason, judges should use an encouraging tone when asking questions or giving constructive criticism. In this regard, judges:
 - need to control the interviews and not let the students monopolize much of the 15 minutes with a “canned” speech.
 - should use open-ended questions during the interview.
 - should not criticize, treat lightly, or display boredom toward projects they ***personally consider unimportant***. Always give credit to the Finalist for completing a challenging task and/or for their success in previous competitions.
 - should **remember that results are confidential until they are announced at the awards ceremonies**.

- A consistent conundrum for ISEF judges is determining how much of a finalist’s work can be attributed to the finalist versus contributions (intellectual and resources) from other individuals (parents or mentors) or institutions. In this regard judges:
 - should examine the quality of the Finalist’s work, and how well the Finalist understands his or her project and area of study.
 - should review the supervising scientist’s comments on *Intel ISEF Form 1C* to help determine more clearly what the student did. When research is conducted in an industrial or institutional setting, the Finalist is required to include ***Intel ISEF Form 1C*** with the project documentation.
 - should work with fellow judges during caucus deliberations is to collectively determine whether or not a particular finalist’s work was overly influenced by input from other persons.

- Judges should keep in mind that the Intel ISEF is not only a competition, but also an educational and motivating experience for the Finalists. The high point of the fair for the majority of Finalists is their judging experience.
 - Remember, all finalists are already winners, i.e., they represent the best of their community’s affiliated fair regardless of where they did their project or how much access they had to resources—participation in the ISEF is, in itself, an award!

Judging Procedures—Grand Awards

Overview

Tuesday, May 12, 2009 is the first day of judging. Judges register, review the projects in their respective categories and undergo training on Tuesday to prepare for the actual event on Wednesday. It is important that all **Grand Awards** judges register between the hours of 12:00 Noon to 5:00 p.m. This will insure that their interview schedules are as accurate as possible. After registering, it is important that **Grand Awards** judges report to the **Grand Awards** training—rooms D4 and D5 in the Reno-Sparks Convention Center. There is also an opportunity to attend an Excellence in Science & Technology Panel Session featuring Nobel Laureates and other distinguished scientists as well as a Judges' Welcoming Session. After the welcoming session, **Grand Awards** judges should return to their respective category rooms located in the D and F concourses to pick up their interview schedules and to review the projects they will actually be judging on Wednesday.

Wednesday, May 13, 2009 is the day that all judging interviews are conducted and all official scoring, processing of scoring information and determination of winners takes place. The **Grand Awards** judging day is divided into a group meeting and the first judging session in the morning followed by two judging sessions, a discussion and a caucusing period in the afternoon. **Grand Awards** judges must attend the morning Category meeting for any last minute co-chair instructions, to verify final attendance and for the distribution of each judge's pre-printed interview scan cards.

The actual judging process is divided into three judging sessions with the finalists at their projects. The first judging session begins at 9:30 a.m., concluding at 11:45 a.m. It contains the scheduled interview periods 1-9. There is a break for lunch and the second judging session begins at 1:15 p.m., concluding at 3:15 p.m. It contains the scheduled interview periods 10-17. At the conclusion of this session, all of the scheduled interviews will have been completed and both the judges and the finalists take another break. The third and final session begins at 4:15 p.m., concluding at 6:00 p.m. It provides one last opportunity for all judges to talk with the finalists about their research. This is the time period that the **Grand Awards** judges will be meeting in their respective rooms to caucus and finalize their award decisions. A fourth judging period is available after the dinner break for judges who still may need to review the projects to finalize award decisions. This last session is without the Finalists present.

Please see pages 16-18 for a detailed schedule of judging events.

Interviewing

Ideally, the ratio of judges to finalists in **Grand Awards** judging would be 1:1. This optimum ratio is a goal in the recruitment of judges, but most often the number of judges will be less than the number of finalists. To account for the difference, the number of projects in each category, the number of **Grand Awards** judges present, the number of potential interview periods, and the maximum number of finalists' interviews allowed are considered in arranging a **Grand Awards** judge's interview schedule. The goal is to provide each finalist with 6 to 10 interviews; most often this translates into a judge being asked to interview between ten and fourteen finalists.

Each **Grand Awards** category will judge both individual and team projects within that category. *However, Grand Awards co-chairs and judges will determine ONLY the individual winners in their category!* The Co-chairs and judges of a separate Teams Projects caucus will determine the team winners from the data provided by each of the **Grand Awards** judges' interviews and their own interviews in all of the 17 categories.

Scoring

A total of 6,000 to 10,000 interviews will occur on Wednesday. An optical scan card system is used to assist in compilation of the scoring data for the **Grand Awards** judges (see Appendix One for a sample card). After final attendance verification, each **Grand Awards** judge will receive an interview schedule (see Appendix One for a sample schedule), a blue Intel ISEF Judge's Record (See Appendix Two for a sample record), an appropriate number of blue Intel ISEF Judge's interview sheets, and an envelope containing the appropriate pre-printed scan cards for the finalists' projects on his/her schedule. An additional copy of the schedule will be attached to the envelope for backup informational purposes. Notes and scores relative to each project must be kept on the blue Intel ISEF Judge's record as an aid for further discussion and even more importantly, it becomes the judge's own record of how he/she scored each particular project. Each **Grand Awards** judge will be asked to confirm his/her scores once all data have been processed at the end of the second judging session prior to the development of any additional supportive data or any awards' discussions. The blue Intel ISEF Judge's interview sheet contains the scoring rubric along with other information that might be useful to judges in determining finalists' scores. The scan cards will be pre-printed with the appropriate information concerning interview time, the judge's ID number, and the project number (booth location) of the finalist's project. Judges should review these cards and check for accuracy against the schedule. Any discrepancy should be brought to the attention of the Category Co-chair immediately.

Once the score has been determined, it should be written in the appropriate blocks on the scan card and the number "bubbled-in" by filling in the proper ovals corresponding to the digits of the score. **ONLY A BLACK SANFORD SHARPIE PEN SHOULD BE USED TO MARK ANY JUDGING SCAN CARD** (they will be provided). The maximum score for any finalist is 100.

Judges should turn in the scan card at the end of each interview, if possible, or at least at his or her next open period. All of the scan cards should be turned in at the designated areas of the HUB in the exhibit hall and NOT to the category co-chairs in the caucus rooms. Judges should remain at the HUB until personnel have checked the cards for completeness. If necessary, they can create replacement cards. Prior to conducting the statistical analysis, a printout of each set of judge's scores will be delivered to the category co-chairs who will distribute them to the individual judges. Each judge should compare this set of his or her set of scores with those maintained on his or her blue Intel ISEF Judge's record sheet. Once all scores have been confirmed, the statistical analysis will be conducted to aid the judges and co-chairs in their final discussion to select the **Grand Awards** winners.

It is important that scan cards are not held until the end of judging as it will seriously delay compilation of the raw scores and ultimately the final scoring process.

Statistical Information Derived from Interviews

Each ISEF Grand Awards Category is divided into subcategories. Each judge within a subcategory will evaluate a number of projects within that subcategory. In addition, the judge will most likely evaluate some projects outside the subcategory. Given that a finalist's project could receive as many as 10 judging interviews and subsequent scores, a statistical analysis is conducted to standardize the results. A Score Analysis Report for each Intel ISEF Grand Awards Category will list finalists' projects from high to low giving 1) a score average, 2) average ranked score and 3) an averaged Z score for each project.

Score Average

This provides an average of all scores assigned to a project within the category. This is, in essence, the raw data.

Average Rank

The average ranking provides each project score as a ranking against the scores assigned by that judge to other projects. According to Dr. David Feinstein's methodology, a judge's top score earns a ranking of one and the judge's bottom score earns a ranking of zero. Other scores earn rankings between zero and one according to their place in the sorted list of scores assigned by the judge. For example, judge 1 evaluated 4 projects and assigned scores of {20, 30, 62, 74}, the rankings of these scores, spaced uniformly from zero to one would become {0, 0.33, 0.67, 1}.

Judges should remember that these statistical data are provided to them only as an aid in determining the winners. Final decisions are achieved through the caucusing process of the **Grand Awards** judges and their Co-Chairs at the end of the day on Wednesday.

Final Awards Selection and Certification—Caucusing

As has been explained, each **Grand Awards** judge will be responsible for scoring between 10-14 projects in scheduled interviews. The next step in judging is to work with all of the **Grand Awards** judges in your category for the final selection of winners. Society for Science & the Public determines the number and distribution of Intel ISEF **Grand Awards** within each category. Approximately 25% of all qualified projects exhibiting at the Intel ISEF are given **Grand Awards**. Awards are \$5,000 for Best of Category, \$3,000 for First Place, \$1,500 for Second Place, \$1,000 for Third Place and \$500 for Fourth Place. The Best of Category award is given to one of the First Place winners in each of the 17 categories and in the Teams' projects categories.

Your participation in this caucus session is as important as the individual judging you have done throughout the day. Please follow the caucusing guidelines established by your co-chair(s) to govern the discussion and most importantly, please be considerate of all the judges in your category as they participate in the discussion.

Led by the co-chairs, this approximately 2-hour caucus session will allow you to discuss the merits and weaknesses of particular projects as you work to determine the winners. Your input is extremely important during this session, especially for establishing the top category winners.

The caucus session will begin at 4:15 p.m. Your co-chairs will review the exact procedures for selecting winners in your category at this time. From 4:15 p.m.–5:00 p.m. you will have a final opportunity to bring to the attention of the other judges in your category projects that you believe are especially deserving of receiving a top award. At approximately 5:00 p.m. the data sets with your scoring information will be delivered to your caucus room. Finalists will be available to speak with judges until 6:00 p.m., in the event that additional clarification is needed on any of the projects. A working buffet dinner will be served as caucusing begins; final decisions should be reached by approximately 8:00 p.m.

At the conclusion of this caucusing period, the **Grand Awards** Category Co-chair enters the project number and the name of each winner on the certification sheet. The Judging Category Chair then presents the completed sheet to the SSP Judging Control Center in Hall -1C where it is entered into a certification database. Following the entry of the information, two copies of the final certification are printed. The final copies, contents of which are confidential, are signed and certified by the **Grand Awards** Category Co-chair; one copy is retained by Society for Science & the Public and the other copy is given to the Category Co-chair. Responsibilities of the **Grand Awards** judges are completed with final certification of results.

Post-judging Tips

- Please be discreet when discussing winners or making critical comments in elevators, restaurants, or elsewhere, as finalists or adult escorts might overhear. Results are confidential until announced at the awards sessions.
- Judges should leave all documentation and notes regarding judging in the caucus rooms. These items will be collected and destroyed by Host Committee judging co-chairs and volunteers at the conclusion of judging.

Judging Procedures—*Special Awards*

Overview

Tuesday is also the first day of judging for **Special Awards** judges. Registration, an opportunity for overall project review, Excellence in Science & Technology Panel Session featuring Nobel Laureates and other distinguished scientists, the Judges' Welcoming Session and meetings with **Special Awards** team leaders are the critical activities that take place on Tuesday.

It is important that **Special Awards** judges register on Tuesday in order to have as much time as possible for project review. At registration, each judge will receive a nametag, a red ribbon that indicates that he/she is a **Special Awards** judge along with other pertinent information. After registering, **Special Awards** judges should proceed to Hall 1A and report to the **Special Awards** Judging Central check-in table where Society for Science & the Public staff will help them find their way. Each **Special Awards** organization will have a designated discussion table or group of tables where that organization's judges will meet with their team leader(s), review Finalists' project information and ultimately make decisions on who will win their organization's awards. When the **Special Awards** Judges' Discussion Area (Hall 1A-1B) opens at 9 a.m. on Tuesday, each **Special Awards** organization's Team Leader will receive a red folder containing the list of prizes their organization will be awarding. The **Special Awards** team leader will convey this information to the judges for that particular organization and it will serve as the basis for the judging work to follow.

The balance of Tuesday can be used for pre-judging —viewing the Finalists' projects without the Finalists present, attending the Nobel Laureate discussion, attending a dinner provided by the Host Committee and participating in a Judges' Welcoming Session. At approximately 8:30 p.m., a Finalists' Open Period Grid will be posted in Hall 1A, in the HUB area of Exhibit Hall 2, and in an area near the **Special Awards** Judging Central check-in table. This grid can be used to determine when a **Special Awards** judge might interview Finalists during Judging Interview periods 1 & 2 on Wednesday, May 13.

Wednesday is the day that all judging interviews are conducted and all official scoring and determination of winners takes place. For **Grand Awards** judging, there are three scheduled judging periods with the Finalists present and one final period without the Finalists. Prior to the beginning of the **Grand Awards** scheduled interview periods 1-9 at 9:30 a.m., **Special Awards** judges will have an exclusive opportunity to interview Finalists at their projects from 8:30 a.m. until 9:15 a.m. and again at the conclusion of the **Grand Awards** scheduled interview periods 10-17 from 3:15 p.m. until 3:45 p.m. We encourage Special Award organizations to take advantage of these time periods when they will have first priority and access to the finalists. During the scheduled time periods, **Special Awards** judges are asked to honor the **Grand Awards** schedules by only interviewing Finalists that do not have a **Grand Awards** interview scheduled. There is an open period grid that is posted in the SAO hall on Tuesday evening that provides the times in which each finalist is not scheduled for an interview.

The third judging session is an open, non-scheduled period for all judges to use. *Please be patient and considerate with ALL of your fellow judges as they interview during this final period. This is the last opportunity for discussion with the finalists prior to determining your organization's award*

winners. There is a fourth and final judging period that takes place after dinner. It is provided for those judges that need to review a particular project one final time; however, Finalists will not be present during this period.

Once a ***Special Awards*** organization's judges and Team Leader have determined their winners, the Team Leader enters the project number and name of each winner on the certification sheet contained in the Red folder that was distributed to each organization on Tuesday morning. The Team Leader then presents the completed certification in the Red folder to the SSP employees in the Judging Control Center in Hall 1C. Once this information has been processed, two copies of the final certification will be printed. The final copies, *contents of which are confidential*, are signed and certified by the ***Special Awards*** Team Leader. One copy is retained by Society for Science & the Public (SSP) and the other copy is given to the Team Leader. Submission of the name(s) and title(s) of the Awards Ceremony presenters should take place at this time as well. With the submission and certification of the above mentioned paperwork, the ***Special Awards*** judging work is completed.

All questions regarding ***Special Awards*** judging should be directed to Diane Rashid, the ***Special Awards*** Judging Coordinator at the ***Special Awards*** Judging Central check-in table near the entrance to the Judges' Discussion Area in Hall 1A-1B.

Judging Record Folder

On Tuesday morning a Judging Record Folder will be placed in the meeting areas of each Grand Awards category and in the discussion area of each **Special Awards** judging group. This folder will contain a reporting sheet to provide final certification of judging results for all awards as well as the listing of the awards each respective judging group must determine. The Grand Awards *Category Co-chair* or **Special Awards** Leader of each judging group is responsible for the folder. Final Certification of results is not official until the *Co-chair or Leader* has:

- 1) Returned the Judging Record Folder and its completed certification sheet to the SSP Judging Control Center in Hall 1C;
- 2) Reviewed computer generated documents to confirm proper inclusion of each award winner; and
- 3) Signed and returned the printed documentation provided under item (20) with any previously distributed statistical data to the Judging Control Center. For **Special Awards** groups, the final awards certification sheet is also used to identify the person who will attend the Awards Ceremony on behalf of the sponsor.

ALL RECORD FOLDERS, WITH FINAL AWARDS DOCUMENTATION AND ANY SOCIETY FOR SCIENCE & THE PUBLIC PRODUCED STATISTICAL INFORMATION ON PROJECTS, MUST BE RECEIVED AT THE JUDGING CONTROL CENTER BEFORE THE CATEGORY CO-CHAIR OR SPECIAL AWARDS LEADER LEAVES THE JUDGING AREA.

Judging Schedule—Intel ISEF 2009

Tuesday, May 12, 2009

9:00 a.m.–10:00 p.m.	SAO Judges Registration—Lobby Reno Sparks Convention Center (RSCC)
12:00 Noon–5:00 p.m.	Grand Awards Judges' Registration—Lobby Reno Sparks Convention Center (RSCC)
9:00 a.m.–10:30 p.m.	SAO Judges Discussion Area Open - Hall 1 A/B
10:00 a.m.–1:00 p.m.	Grand Award Judging Category Co-Chairs Training & Luncheon - A7
12:00 Noon–11:30 p.m.	Exhibit Hall Open for Prejudging Projects - Hall 2
12:00 Noon–5:30 p.m.	Grand Awards Judges training sessions - Rooms D4 and D5
4:30 p.m.–5:30 p.m.	Excellence in Science & Technology Panel Session featuring Nobel Laureates and other distinguished scientists— All Judges who have completed training are invited! - Hall 4
5:30 p.m.–6:00 p.m.	Grand Award Category Co-Chairs (one per category) meeting with Runners - Concourses D and F
5:45 p.m.–6:45 p.m.	Grand Awards Judges Group Meetings—Final attendance verification, dinner, and category-specific training and discussion - Concourse D, F; Rooms as assigned
6:00 p.m.–7:00 p.m.	Buffet Dinner for All Judges —Hall 1 A/B and Concourses D and F
7:00 p.m.–8:00 p.m.	Welcoming session for All Judges —Hall 4
8:00 p.m.–8:30 p.m.	Grand Awards Judges Group Meetings & Distribution of Schedules—Concourse D & F Rooms as Assigned
8:30 p.m.	Finalists' Open Interview Period Grid posted for use by SAO judges—Hall 2
10:00 p.m.	SAO Judges registration CLOSES
11:30 p.m.	Exhibit Hall closes to ALL judges

Wednesday, May 13, 2009

7:00 a.m.–8:00 a.m.	SAO Judges Registration (SAO Judges Only)—Registration Area
7:00 a.m.–8:30 a.m.	Exhibit Hall Open (Judges ONLY!)—Hall 2
7:00 a.m.–8:00 a.m.	Judges' Breakfast - Hall 1 A/B and Concourses D and F
8:30 a.m.–9:15 a.m.	Grand Awards Judges Group Meetings / Verify Attendance (distribute scan cards) Grand Award Judges Only —Concourse D & F, rooms as assigned
8:30 a.m.–9:30 a.m.	Finalists at their projects— OPEN Interview Period for SAO judges ONLY! —Hall 2
9:30 a.m.–11:45 a.m.	Finalists' Scheduled Interviews with Grand Awards judges—Judging Periods 1–9 SAO judges may use open interview periods for interviewing students—Hall 2
11:45 p.m.–1:00 p.m.	Lunch Break for Finalists
12:00 Noon–1:15 p.m.	Lunch—Judges—Hall 1 A/B and Concourses D and F
1:15 p.m.–3:15 p.m.	Finalists' Scheduled Interviews with Grand Awards judges—Judging Periods 10–17 SAO judges may use open interview periods for interviewing students—Hall 2

3:15 p.m.–3:45 p.m.	Open Interview Period for use by SAO judges - <u>NO</u> Grand Awards judges interviews during this period!—Hall 2
3:30 p.m.–4:15 p.m.	Break for Judges
4:00 p.m.–8:00 p.m.	Grand Awards Judges caucus with their respective co-chairs to determine award results; working dinner (caucus may extend later for some larger categories)—Concourse D, F Rooms as assigned
4:00 p.m.–8:00 p.m.	SAO judges caucus with their respective leaders to determine award results—Hall 1B
4:15 p.m.–6:00 p.m.	FINAL Judging session with Finalists at their projects; SAO interviews and any necessary unscheduled interviews by Grand Awards judges—Hall 2
5:30 p.m.–7:30 p.m.	Judges' Buffet Dinner—Hall 1, Concourse D,E,F, rooms as assigned
6:00 p.m.–8:30 p.m.	Optional period for Judges' review of Projects (Finalists Not Present)—Hall 2
8:30 p.m.	Exhibit Hall closes to ALL judges
8:30 p.m.	All Category Co-chairs and SAO leaders should have submitted their certified award results to SSP at the Judging Control Center in Hall 1C

2009 Schedule for Award Ceremonies

Special Awards Ceremonies—Ceremony for special awards presented by U.S. organizations, federal agencies and colleges/universities: **Thursday, May 14, 2009, 7:00 p.m. in Exhibit Hall 4 of the Reno-Sparks Convention Center.**

Intel ISEF Grand Awards Ceremony for Best and First through Fourth place Grand Award selected from each of the ISEF categories: **Friday, May 15, 2009, 10:00 a.m. in Exhibit Hall 4 of the Reno-Sparks Convention Center.**

To learn more about these organizations and the prizes awarded at the Intel ISEF, we encourage you to visit our website at <http://www.societyforscience.org/isef/awards.asp>.

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Society for Science & the Public

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Appendix One

Figure 1. Judging Scan Card

ISEF Judging Score Card		ISEF Judge's ID Number	ISEF Project's Booth Location	Judge's Score
Time of Interview		5	A A 0 0 0	0 0 0
9:30	0 1:15	1 1 1 1	B B 1 1 1	1 1 1
9:45	0 1:30	2 2 2 2	C C 2 2 2	2 2
10:00	0 1:45	3 3 3 3	E H 3 3 3	3 3
10:15	0 2:00	4 4 4 4	M I 4 4 4	4 4
10:30	0 2:15	5 5 5 5	P M 5 5 5	5 5
10:45	0 2:30	6 6 6 6	N 6 6 6	6 6
11:00	0 2:45	7 7 7 7	S 7 7 7	7 7
11:15	0 3:00	8 8 8 8	T 8 8 8	8 8
11:30	0 3:15	9 9 9 9	V 9 9 9	9 9

Society for Science & the Public
Intel International Science & Engineering Fair

Instructions: Complete ONE Card for EACH project. For Judge's Score enter OVERALL score for the student ranging from a minimum of 1 to a maximum of 100 using ISEF Judging Criteria.

Student _____

Judge's Name: _____

Figure 2. Sample Judge's Interview Schedule

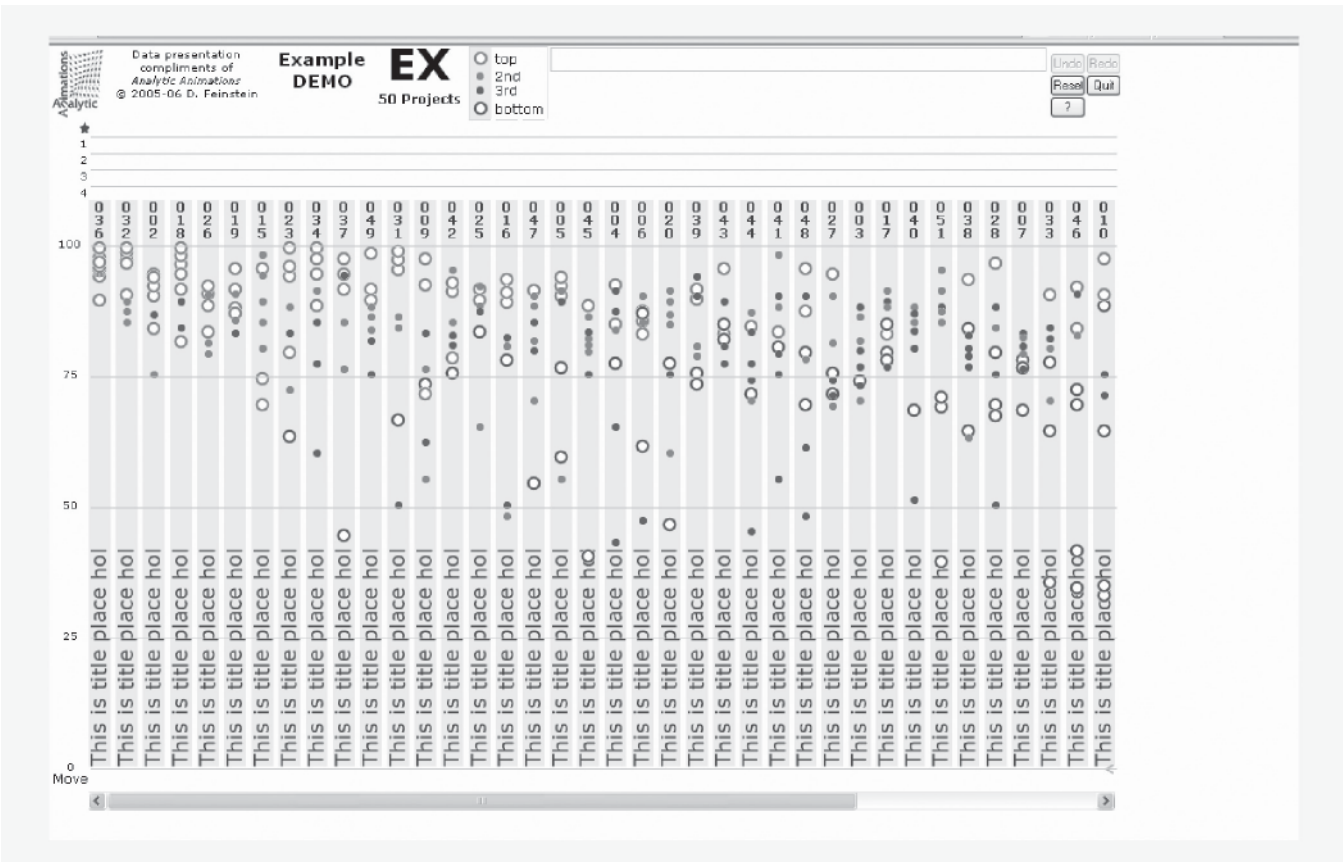
JUDGE: ANNE JEFFERSON		ID: 55637 EA	
SESSION 1		SESSION 2	
1: 9:30 AM-EA026	R. England	1: 1:15 PM-EA019	R. Thakur
2: 9:45 AM-EA005	A. Johnson	2: 1:30 PM-	
3: 10:00 AM-EA018	A. Weeks	3: 1:45 PM-	
4: 10:15 AM-EA027	S. Woodall	4: 2:00 PM-EA010	K. Gibbs
5: 10:30 AM-EA028	C. Arnold	5: 2:15 PM-EA008	C. Johnson
6: 10:45 AM-EA002	G. Reen	6: 2:30 PM-EA011	K. Cagen
7: 11:00 AM-EA015	C. Heslop	7: 2:45 PM-	
8: 11:15 AM-EA016	R. Sanderli	8: 3:00 PM-EA014	S. Keith
9: 11:30 AM-EA022	B. McLindon		

Appendix Two

Figure 3a. Sample Scoring

2004 INTEL ISEF		SCORE ANALYSIS OF JUDGE 55048				PAGE 1
Judge ID (Badge Number): 55048		Category: CS		Subcategory: OTHR		
Judge Name: Prof. Daniel Wilson						
SESSION	INTERVIEW	SCORE	ZSCORE	PROJECT ID	STUDENT NAME(S)	
1	1	90	1.212	CS045	Jeffrey Ferman	
1	2	86	0.960	CS052	Kenny Sharma	
1	3	92	1.339	CS060	Benjamin Unsworth	
1	6	68	-0.177	CS061	Alexander Woods	
1	7	63	-0.492	CS002	Ryan Morgan	
2	1	74	0.202	CS059	Sonia Singhal	
2	3	51	-1.250	CS025	Ariel Lizo	
2	5	52	-1.187	CS037	Taweetham Limpanuparb	
2	6	79	0.518	CS054	Wooi Meng Chin	
2	7	53	-1.124	CS014	Ho Seung Ryu	
Total Number of Scores: 10						
Mean Score: 70.800						
High Score: 92						
Low Score: 51						
Median Score: 71.000						

Figure 3b. Dr. Feinstein's Program Display



Appendix Three

Figure 4.

INTEL ISEF GRAND AWARDS JUDGE'S SCORING GUIDELINE & WORKSHEET

Period _____ Booth Location _____ Finalist's Name _____

INTEL ISEF GRAND AWARDS JUDGE'S SCORING GUIDELINE & WORKSHEET

Period _____ Booth Location _____ Finalist's Name _____

Grand Awards judging is conducted using a 100-point scale with points assigned to creative ability, scientific thought or engineering goals (II a and b, respectively), thoroughness, skill, and clarity. Team projects have a slightly different balance of points that includes points for teamwork. Following is a set of criteria that can assist you in interviewing the finalists and aid in your evaluation of the finalists' projects. (A more thorough discussion of the criteria can be found in the Judging Guide.)

Guidelines	Notes	Points Available	Points Awarded
I. Creative Ability <ul style="list-style-type: none"> in questions, investigation, data, approach 		Individual – 30 Team – 25	
II a. Scientific Thought (if an engineering project, see IIb) <ul style="list-style-type: none"> design variables/controls conclusions 		Individual – 30 Team – 25	
II b. Engineering Goals <ul style="list-style-type: none"> workable/economical potential use 			
III. Thoroughness <ul style="list-style-type: none"> coverage replication? awareness of area completeness of notes 		Individual – 15 Team – 12	
IV. Skill <ul style="list-style-type: none"> possesses necessary skills help provided? 		Individual – 15 Team – 12	
V. Clarity <ul style="list-style-type: none"> in discussion/written work display 		Individual – 10 Team – 10	
VI. Teamwork (for Team Projects Only) <ul style="list-style-type: none"> contribution of team members coordinated efforts 		Team only – 16	
TOTAL			

"Award the best ...Encourage the rest"

PLEASE KEEP THIS SHEET WITH YOU UNTIL THE JUDGING PROCESS HAS BEEN COMPLETED!
RETURN IT, ALONG WITH ALL REMAINING PAPERWORK, TO YOUR CATEGORY CO-CHAIR.

Appendix Four

Figure 5. Judge's Record (blue)

Intel ISEF

Judge's Schedule & Record

JUDGE: JENNIFER BANKERS-FULBRIGHT ID: 55007 MI

SESSION 1	SESSION 2
1: 10:00 AM-MI306T D. Butler,	1: 1:30 PM-M1058 A. De Obal
2: 10:15 AM-MI303T J. Flores,	2: 1:45 PM-
3: 10:30 AM-	3: 2:00 PM-M1077 K. Liberat
4: 10:45 AM-	4: 2:15 PM-M1301T J. Spaw, K
5: 11:00 AM-M1003 T. Sotto	5: 2:30 PM-M1001 A. Smith
6: 11:15 AM-M1021 T. Clevelan	6: 2:45 PM-M1304T K. Gonzale
7: 11:30 AM-M1052 T. Diaz	7: 3:00 PM-M1053 S. Wilfahr
8: 11:45 AM-	8: 3:15 PM-
9: 12:00 PM-	

Period	Booth Location	Score	Judge's Notes on ISEF Project
I-#01	_____	_____	_____
I-#02	_____	_____	_____
I-#03	_____	_____	_____
I-#04	_____	_____	_____
I-#05	_____	_____	_____
I-#06	_____	_____	_____
I-#07	_____	_____	_____
I-#08	_____	_____	_____
I-#09	_____	_____	_____
I-#10	_____	_____	_____
I-#11	_____	_____	_____
I-#12	_____	_____	_____
I-#13	_____	_____	_____
I-#14	_____	_____	_____
I-#15	_____	_____	_____
I-#16	_____	_____	_____
I-#17	_____	_____	_____