Intel ISEF Judging Guidelines - 2013

The following evaluation criteria will be used for judging at the Intel ISEF 2013. It has been extensively reviewed and revised by the Intel ISEF Judge Advisory Committee, with additional input from science, engineering and educational experts. One of the most significant changes from the previous guidelines is the use of different criteria for science and engineering projects. As shown below, both criteria have five sections as well as suggested scoring for each section. Each section includes key items to consider for evaluation both before and after the interview. Students are encouraged to design their posters in a clear and informative manner to allow pre-interview evaluation and to enable the interview to become an in-depth discussion. Judges should examine the student notebook and, if present, any special forms such as Form 1C (Regulated Research Institution/Industrial Setting) and Form 2 (Qualified Scientist). Considerable emphasis is placed on two areas: *Creativity* and *Presentation,* especially the *Interview* section, and are discussed in more detail below.

Creativity: A creative project demonstrates imagination and inventiveness. Such projects often offer different perspectives that open up new possibilities or new alternatives. Judges should place emphasis on research outcomes in evaluating creativity.

Presentation/Interview: The interview provides the opportunity to interact with the finalists and evaluate their understanding of the project's basic science, interpretation and limitations of the results and conclusions.

- If the project was done at a research or industrial facility, the judge should determine the degree of independence of the finalist in conducting the project, which is documented on Form 1C and Form 2.
- If the project was completed at home or in a school laboratory, the judge should determine if the finalist received any mentoring or professional guidance.
- If the project is a multi-year effort, the interview should focus ONLY on the current year's work. Judges should review the project's abstract and Form 7 (Intel ISEF Continuation Projects) to clarify what progress was completed this year.
- Please note that both team and individual projects are judged together, and projects should be judged only on the basis of their quality. However, all team members should demonstrate significant contributions to and an understanding of the project.

Judging Criteria for Science Projects

I. Research Question (10 pts)

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

II. Design and Methodology (15 pts)

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

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

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

IV. Creativity (20 pts)

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

continued

V. Presentation (35 pts)

a. Poster 10 pts)

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

b. Interview (25 pts)

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

Judging Criteria for Engineering Projects

I. Research Problem (10 pts)

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

II. Design and Methodology (15 pts)

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

III. Execution: Construction and Testing (20 pts)

___ prototype demonstrates intended design
___ prototype has been tested in multiple conditions/trials
___ prototype demonstrates engineering skill and completeness

IV. Creativity (20 pts)

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

V. Presentation (35 pts)

a. Poster (10 pts)

___logical organization of material
___clarity of graphics and legends
___ supporting documentation displayed

b. Interview (25 pts)

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