

# Judging

Each awards category is judged by its own judging panel. Because of this, the number of judges examining each project can vary greatly. If the project is seen by only the regular fair awards judges (and this would be an exceptional case) up to eight judges would view the work. Usually, however, the project is of interest to several groups. For example, a project addressing the use of trash as a source of energy and making heavy use of mathematical techniques and computers could be judged by the applied technology, environmental, energy, mathematics, sustainability, and computer science judging panels in addition to the fair's regular physical awards category and the special awards. Check your top three applicable scientific/engineering discipline boxes when you complete your online registration. Judging chairs have the final word on projects they will consider.

Judging is conducted in two steps. Virtual preliminary judging takes place during Week 1. Preliminary judging interviews will take place during preassigned times. Projects selected as finalists will be posted by Friday evening on the CSEF website and are required to be present for the finalist judging held during Week 2. During finalist judging, the competitors will be interviewed, possibly by judges from multiple categories and special awards.

## Judging Criteria

### 1. Research Question (10 pts)

#### *Science Research*

- Clear and focused purpose of the project
- Identifies contribution to field of study
- Testable using scientific methods

#### *Engineering*

- Description and articulation of a practical need or problem to be solved
- Definition of criteria (for success and/or failure) for proposed solution
- Definition and explanation of constraints and/or assumptions

### 2. Design and Methodology (15 pts)

#### *Science Research*

- Well-designed plan and data collection methods
- Variables and controls defined, appropriate and complete

#### *Engineering*

- Exploration of alternatives to answer need or problem
- Identification and description of a solution
- Development of a prototype/model

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

#### *Science Research*

- Systematic data collection and analysis
- Reproducibility of results
- Appropriate application of analytical and statistical methods
- Sufficient data collected to support interpretation and conclusions

#### *Engineering*

- Prototype demonstrates intended design criteria
  - Prototype has been tested in multiple conditions/trials
  - Prototype demonstrates engineering skill and completeness
- ### 4. Creativity (20 pts)
- Project demonstrates significant novelty and innovation in one or more of the above criteria
- ### 5. Presentation (35 pts)
- #### *Poster (10 pts)*
- Logical organization of material
  - Clarity of graphics and legends
  - Supporting documentation displayed
- #### *Interview (25 pts)*
- Clear, concise, and thoughtful responses to questions
  - Understanding of fundamental science relevant to project
  - Understanding of interpretation and limitations of results and conclusions
  - Clear demonstration of independence in conducting the project
  - Recognition of potential impact and application to related or distant scientific fields, society and/or economics
  - Thoughtful and thorough discussion of potential future work
  - For team projects, contributions to and understanding of project by all members

## The Judging Process

### Regular & Special Category Awards

Judging the number and quality of projects represented at the Connecticut Science & Engineering Fair is a challenging and demanding task, and every effort is made to ensure that each project receives due consideration. Judges are drawn from a wide range of technical disciplines representing the highest professional levels of schools and colleges, industry, technical societies and scientific government agencies. Recent science fair alumni who are pursuing their college studies are enlisted as judges to take advantage of their unique perspective..

### Special Awards

Because of the specific subject emphasis of the special awards, the judging criteria for the special awards are defined by the sponsoring organization to reflect that emphasis. Judging for special awards is carried out separately, and involves judges familiar with, or drawn from, the sponsoring organization. The subject emphasis, different criteria, and separate judging all result in the presentation of special awards to a wide range of projects from across the fair. A list of those receiving special awards at the Saturday ceremonies will be posted on the CSEF website.