

**Connecticut
STEM
Foundation
Inc.**



Inspiring and Educating Students

Connecticut STEM Foundation

- The Foundation that runs the CT STEM Fair
- We work really hard with regional high schools and students to promote and advocate for STEM
- We are an all-volunteer IRS 501(c)(3), supported by individuals in the community
 - Judging the annual fair
 - Mentoring students
 - Other in-kind contributions
- Supported by corporate and foundation grants
- We need your help identifying additional resources

Connecticut STEM Fair 2017

- Began in 2001 with 8 students and 9 judges
- Today 240 students, more than 200 judges
- Affiliated with both the Connecticut Science and Engineering Fair (CSEF), and, for the first time, with the International Science and Engineering Fair (ISEF)

Instructions for Judges

Connecticut STEM Fair 2017

Saturday February 4, 2016

Darien High School

80 High School Road

Darien, Connecticut

Schedule

- 8:30 – 9:15 Judges' Orientation
- 9:30 – 12:30 Judging of all Exhibits
- Lunch (available 12 – 1:30)
- 1:30 - Keynote presentation

Stephanie Eisenbarth, M.D., Ph.D.

followed by Awards presentations

Philosophy and Mechanics

- Consistent scoring to determine awards
- Constructive feedback for all
- All exhibitors treated with dignity and respect
- Finish on time

Awards and Scholarships

- 40 Prizes (not counting ties), 3 scholarships
- 1st, 2nd, 3rd, HM (\$300/\$225/\$150/\$75)
- 10 categories
 - 32 individual awards
 - research and completed projects
 - 4 science disciplines: physical, behavioral, environmental, health
 - 8 team awards
 - Research and completed projects
- Additional special awards
 - Office of Naval Research, ISEF awards

Scholarship Program

- Two awards for graduating seniors who have completed projects, \$1000 each, to be used for college expenses
- One award for non-seniors, \$500, to be used to support summer study
- Selection criteria include total academic performance, recommendations, and financial need

Affiliations With Other Science Fairs

- Connecticut Science and Engineering Fair (CSEF)
 - Statewide Fair
 - Many have already qualified through their schools
 - We will send 7 additional exhibitors who would not otherwise compete
- International Science and Engineering Fair (ISEF)
 - The Olympics of High School science competitions
 - 1700 Exhibitors from 75 countries
 - We will send 3 exhibitors, representing the New Haven/
Fairfield Region

Your Role as a Judge

- Evaluate assigned presentations using the forms provided
- Show interest in projects and presentations
- Question students to gather information and help student demonstrate knowledge
- Provide CONSTRUCTIVE feedback to students; **orally and on evaluation forms**

Captain's Responsibilities: You Are Essential

- Let us know immediately if anyone is missing
- Lead the evaluation process
 - Introduce team to the student
 - Manage timing: no more than 25 minutes per exhibit
 - Validate completeness and accuracy of forms
- Submit completed forms before going to next project
- Check in with Dale Lichtenberg upon completion of final project

Student Exhibit Evaluations

- Each student exhibit is evaluated by two different judge teams
- Students know when to expect the teams
- About 25 minutes total for each exhibit
 - 5 to 10 minute student presentation
 - 5 to 10 minutes question and answer
 - 5 minutes filling out forms

Evaluation Forms

- **Clipboard Number is Judge Number**
 - Forms on clipboard are customized with the
 - Judge Number
 - Exhibit numbers
 - **Be sure you have the right clipboard!!!!**
 - Forms are arranged in order of exhibit judging
 - Use only the forms on your clipboard and only in the designated order
- **Make sure the form matches the exhibit**
- **Captains are responsible for turning in scores**

Evaluation Process

- Each judge rates assigned exhibits individually before team discussion
- Team discussion is not to align scores, but to make sure each judge heard/saw key points of student presentation
- **PLEASE NOTE: Categories on evaluation forms do not have equal point values**

Feedback to Students

This part seen only by scorers

Team:	8
Judge:	94
Order:	1
Scoring	
Actual/Maximum	
Problem definition	10 / 10
Literature Review	12 / 15
Experimental design	14 / 15
Conduct of study	15 / 15
Interpretation of results	16 / 20
Originality and creativity	4 / 5
Project display	10 / 10
Oral presentation	8 / 10
Total Points	89 / 100

Exhibit No: 15

Completed SCIENCE Project Evaluation

Feedback (in the form of comments, not point values) from judges will be provided to students. Please check comment(s) as they apply:
 Strong Acceptable Weak

Problem definition (10 points maximum)
 S A W Abstract sufficiently describes the project – problem and goal.
 S A W Demonstrates an understanding of scientific problem-solving methods.
 S A W Problem was sufficiently framed.

Literature review (15 points maximum)
 S A W Includes significant research into similar topics. *Include more scientific sources*
 S A W Incorporates recent sources.
 S A W Includes scientific, credible sources.

Experimental design (15 points maximum)
 S A W Experimental design is appropriate for the problem and goal.
 S A W Scope of project was reasonable.
 S A W Alternative approaches to the proposed research were considered/ discussed.

Conduct of study (15 points maximum)
 S A W Experimental design was properly implemented.
 S A W Data collection methods were clearly defined and followed.
 S A W Study variables were controlled.
 S A W Experiment was repeated several times to establish validity, reproducibility.

Interpretation of results (20 points maximum)
 S A W Conclusions are logical and are clearly supported by the data.
 S A W Possible alternative explanations were considered and eliminated.
 S A W Limitations of the data are understood.
 S A W Student has an idea of what further research is indicated.
 S A W Student provides written documentation of lab work (i.e., lab notebook).

Originality and creativity (5 points maximum)
 S A W Area of investigation is original.
 S A W Project approach is creative.

Project Display (10 points maximum)
 S A W Clearly presents data and results. Data is well organized.
 S A W Poster highlights relevant information.
 S A W Tables, graphs and illustrations are used effectively.
 S A W Poster board is neat/uncluttered.

Oral presentation (10 points maximum)
 S A W Outstanding presentation – well-organized, thorough and clear.
 S A W Student's ownership/originality was clearly expressed.
 S A W Presentation was well-rehearsed and followed a logical order.
 S A W Presentation was completed within the allotted time.
 S A W Judges' questions were effectively anticipated and succinctly answered following the initial presentation.
 S A W Student maintained good eye contact with judges.
 S A W Student was easy to hear and understand.

Comments: *Strong background knowledge demonstrated. Could emphasize novelty of project. Good presentation skills. Watch time limit. Applications to society?*

Southern Connecticut Invitational Science & Engineering Fair
 Printed 1-31-2011

After the Fair this part is returned to student

Past Science Fair Evaluations

- Median: 76 - 78
- Mode: ~80
- Approximate Ranges

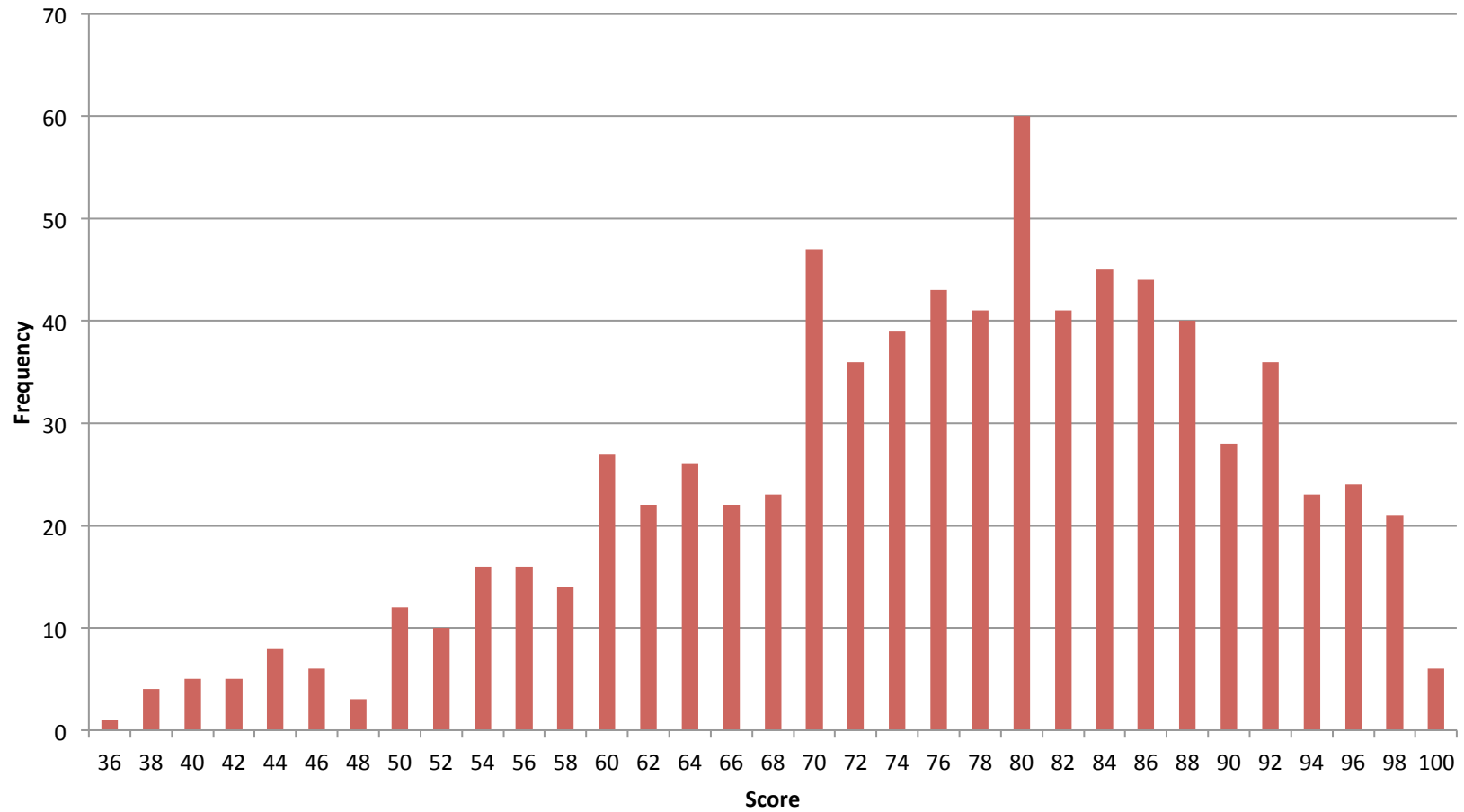
Outstanding: 95 - 100

Excellent: 90 - 95

Good: 80 - 90

Fair: 60 - 80

Recent Score Distribution



Video of Typical Presentation

- A. J. Scheetz will present and lead discussion

Stephanie Eisenbarth

Keynote Speaker

- Eisenbarth Lab at Yale Medical School
- Research focuses on dendritic cells and their role in immune response
- Clinical work focuses on diagnosis of food allergy and autoimmunity
- Will discuss the personal joy and challenges of becoming a professional research scientist

THANK YOU

- For sharing your expertise and time with the student exhibitors.
- Without you the fair could not exist!
- Save the date: February 3, 2018, Amity Regional HS

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