



**Los Angeles  
County Science Fair**

**Judging Science Fair  
Projects**

# What's Coming Up

- **Purpose of the Fair**
- **Overview of Judging Day**
- **Judging Criteria and Mindset**
- **Logistics/Forms**
- **Summary and Final Instructions**



# The purpose of the Science Fair:

- To give students the opportunity to:
  - Do *real* science, math and engineering
  - Learn about a new subject *or more about an old one*
  - Learn how to scientifically investigate
  - *Have fun!*



# The Purpose of the Science Fair:

- **Provide motivation** for students to apply creativity and critical thinking to the solution of problems
- **Encourage** students, educators, scientists and engineers to exchange ideas and discuss career opportunities;





# The Purpose of the Science Fair:

- **Recognize** the achievements of talented science and engineering students in LA County
- **Foster school-community cooperation** in developing the scientific potential and communication skills of tomorrow's leaders in science and engineering



# Every Student Has Interviews With Judges



*One-day judging model*

# Before the Judging

- **After Orientation** Use the time to review the projects in your category.
- **Immediately after this presentation** **Judging Chairs** will be in a special training session
- **8:55am** Please regroup with your panel to begin formal judging. Students enter at 8:50; Judge introductions at 9:00 am in front of project #1 of the category.



# Overview of Judging with Students

**9am** Judge introductions! Meet the students in your category at project #1 and introduce yourselves. *At this time tell them if you will use the time slots or Option B!*

**9:15** LET THE INTERVIEWS BEGIN! 😊

**11:45** Starting of lunch breaks - **STAGGERED**  
You have one hour for lunch.

11:45 → All Senior Division projects

12:00 → J01-J06, J08, J09

12:15 → J10, J11, J13-J18, J21- J22

12:30 → J07, J12, J19, J20



*Use this time to talk with your other judges to determine to “top projects”*



# Judging and Awards

- **After Lunch** Go out and interview each student again! These can be quick! Make sure that all judges interact with the “top projects”, and be sure to talk with all others.
- Once you have all talked with all members of your category YOU may dismiss the category of students! They will not leave until you dismiss them!
- *Meet to discuss and decide on 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and Honorable Mentions.*
- Consider recognizing about 20-25% of the projects present.

# Judging and Awards

## ***IF APPLICABLE:***

- ✓ designate TOP Honorable Mention as ***“State Fair Alternate;”*** fill out special scoring sheet;
- ✓ nominate candidates for **Smedley** winners; (not a team project)
- ✓ designate any **Special Awards** if such documentation is in your folder; or
- ✓ nominate 1st Place recommendations for **Sweepstakes.**
- ✓ nominate 1st Place recommendations for **ISEF.**
- **By 3:30 Chair must turn in final award sheet and scoring sheets! →Judging team may leave once forms are in and complete.**

# Conflicts of Interest

- Disqualify yourself and **ask to be reassigned** if a **real or perceived conflict of interest occurs**



# The Judge's Job Is to:

- Question skillfully and thoroughly
- Leave the student feeling positive about her/his accomplishments
- Help the student learn something from the experience
- Determine winners
- Make sure every entrant is interviewed once in each round





# What Should I Expect From Students?

- Pride in their projects and accomplishments
- Ability to clearly and concisely explain their projects
- To be able answer judge's questions at levels appropriate to their grade and age
- A wide variety of project quality and sophistication



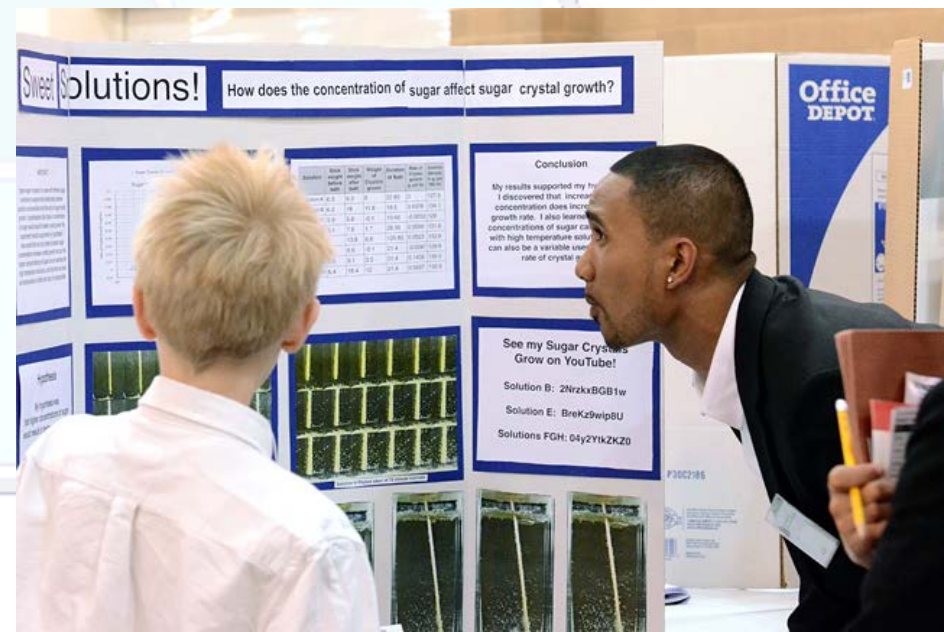
# Be an Educator

- **Treat students with respect**
  - Project should be considered a **significant, serious enterprise**
  - Evaluate but also *praise efforts* and accomplishments
  - Ask questions which will cause the student *to think, learn, and explore further*



# Judging Mindset

- Consider *how well* the resources were used
- Not all projects are hypothesis driven or lend themselves to the use of controls
- Hypothesis should be based on theory and data, NOT guessing
- All things being equal, ORIGINALITY is *superior*





# Judging Mindset

- Error analysis IS important: *appropriate to grade level*
- Draw on team expertise for any subject/ content that is unclear
- Not a “*Backboard Beauty Contest*”
- Don’t *automatically assume* that a complicated project is not student generated. *If unsure, re-interview*
- Project should show evidence of literature review in report

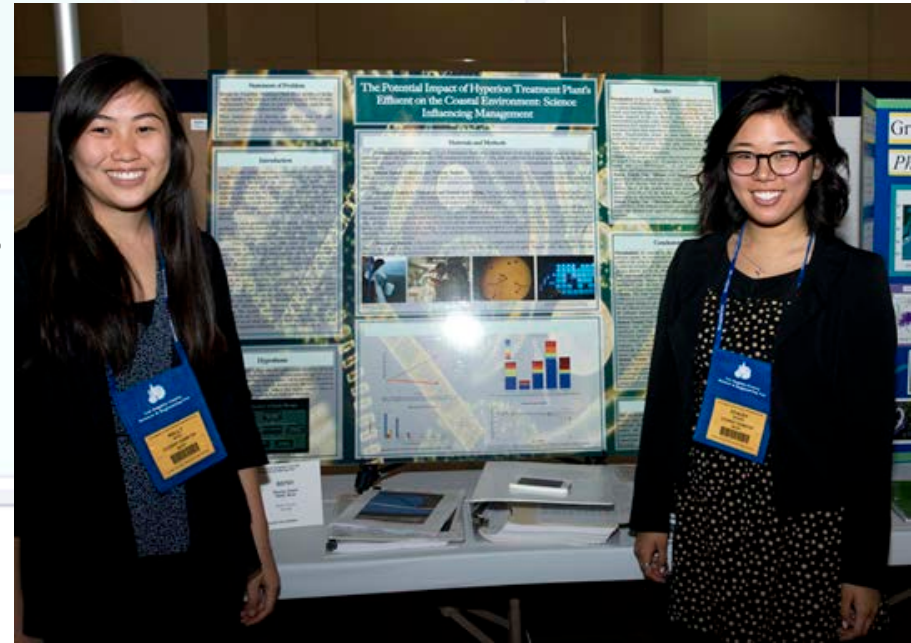




# Screening Team Projects

## Aspects to Consider

- Why is this a team project?
- Do all Team Members understand objectives & outcomes?
- What are the unique contributions of each team member?



# Screening Multi-Year Projects

- Aspects to Consider
  - Is it “2/3<sup>rd</sup>’s different” from the previous year?



# Confidentiality

- Information regarding your findings or conclusions **must not be revealed to anyone except other panel members and Science Fair officials**

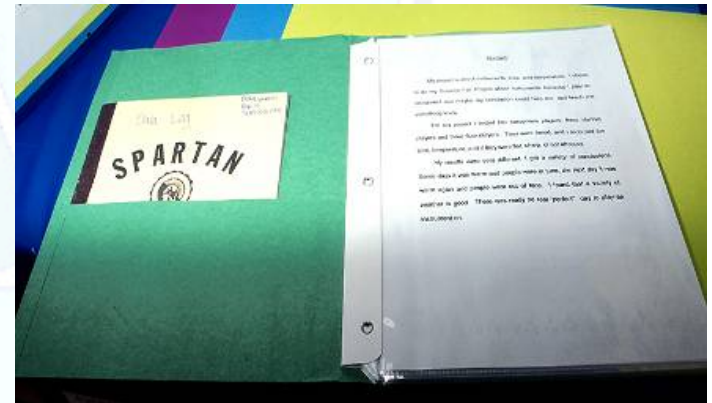




# Project Report

Although terminology and organization may differ, a good report usually includes:

- **Abstract (one page only; comes FIRST)**
- **Introduction**
- **Materials & Methods**
- **Results (*Data*)**
- **Discussion**
- **Conclusions (*can be within Discussion*)**
- **References (*Literature Cited*)**





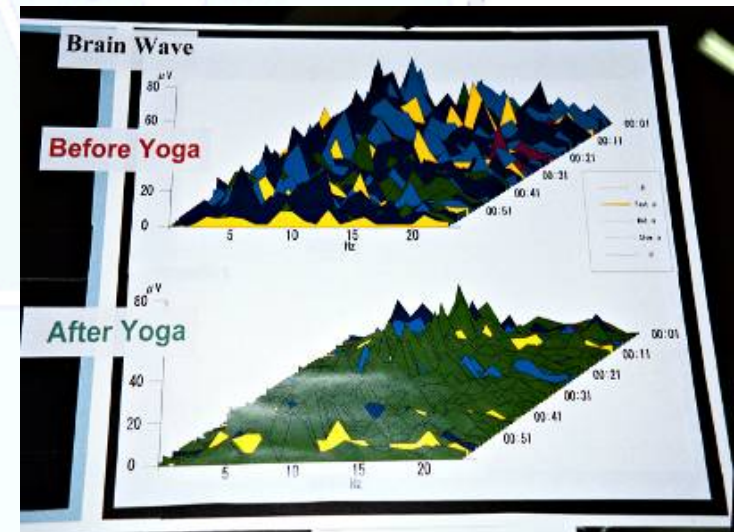
# Daily Log/Notebook

- Complete and in order
- What was done & when was it done
- Should be *original recorded data*



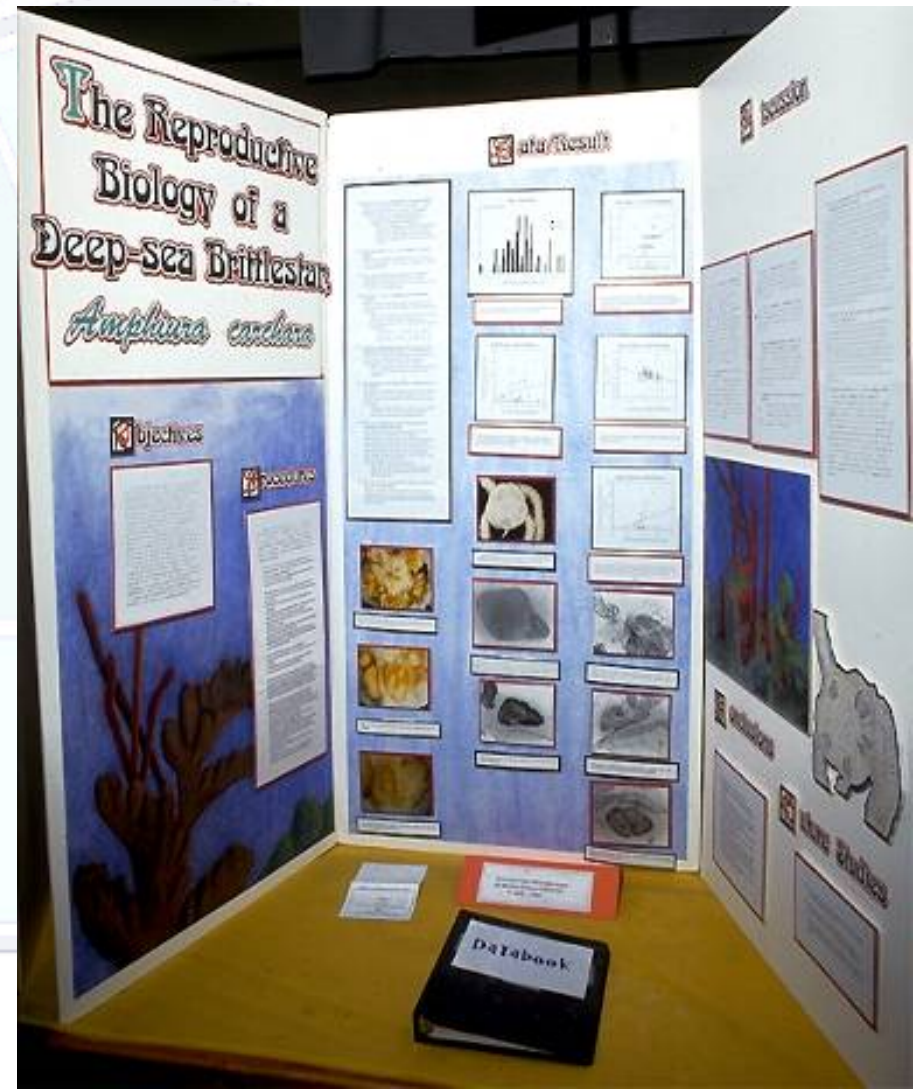
# Analysis of Data

- Data should be in **table & graphic form**
- Projects should include **statistical analysis** appropriate for the project and the student's grade level
- When sampling is an integral part of the project, be sure the **sample size, repeat runs, and control of variables** is appropriately addressed



# Communication Skills

- Ability of student(s) to communicate elements of their project **CONCISELY** in writing
- **Grammar** and **spelling/syntax** should be **considered**.



# Completed Forms

- Projects involving ***vertebrate animals, tissues/cell lines, human subjects, hazardous chemicals and/or microbes*** must have appropriate certification ***in their report***
- ***Form #601-068 for Jr. Division; ISEF Forms for Sr. Division***
- If not available, request paperwork from **Judges' Kiosk**





# Overview of Packet Forms

- **Judges Scoring Sheets**
  - “New” scoring sheets for all interviews
  - “Old” scoring sheet (for “*State Science Fair Alternate*”)
- **1 Final Scoring Sheet for Panel Chair- we need numbers for each project per team**
- ***Tent Cards are in front of each project; don't forget to sign it every time!***
- **Award Note Sheets**
- **Special Award Sheets (*if applicable*)**



# Tent-Cards and Time Slots

Sign project table-tents every  
time you interview students

Interviews:

## Option A

Designated time slots- **7min.** each  
*(including scoring and travel time!)*  
*consider a 6 minute interview.*

## Option B

*Work with Judging team to decide on spacing of your starting spot. Then continue to the next project once done. (Fluid movement.) –Similar to State Science Fair paicng*

**No-Shows:** interview a student **NOT** on your interview list *or catch up on scoring!*

--Please do not touch the exhibit--

Junior Division  
Product Science

XXXXXXXXXXXXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXX

**J2222**

64th Annual Los Angeles County  
Science & Engineering Fair

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XXXXXXXXXXXXXXXXXXXX  
Palos Verdes Intermediate School  
The Truth On Hand Sanitizers

STUDENTS: PLEASE REMAIN AT YOUR PROJECT 10 MINUTES PRIOR TO AND  
10 MINUTES FOLLOWING THE SCHEDULED FIRST ROUND INTERVIEW TIMES  
SHOWN BELOW FOR ADDITIONAL INTERVIEW OPPORTUNITIES!

1st ROUND JUDGING		2nd ROUND JUDGING
INTERVIEW TIME(S)	JUDGE SIGNATURE	JUDGE SIGNATURE
10:35 am		

Morning and lunch breaks are by category. Please refer to the  
"What to Expect on Judging Day" handout you were given during registration.  
**STUDENTS ARE REQUIRED TO STAY AT THEIR PROJECTS UNTIL DISMISSED BY JUDGES.**  
Check out the Interactive Hands-On Exhibits in the Conference Center during your breaks!

# Judges Scoring Sheets (new)

- Each judge should score each project they interview.
- **PLEASE** take a moment to review questions/criteria before interviews.
- You will use these sheets when you reconvene.
- Backside has place for notes!

Annual Los Angeles County Science & Engineering Fair

## PROJECT SCORING SHEET

Animal Biology (J) GROUP **1**

Division JUNIOR Category J01 1

Chair Ms. 867

Judge Name \_\_\_\_\_

PROJ #	TIME		CREATIVITY (30)	SCI. THOUGHT OR ENG. GOALS (30)	THOROUGHNESS (15)	SKILL (15)	CLARITY (10)	TOTAL (100)	SEMIFINALIST? (Y/N)
J0101	9:00am	Vitamin C Fevler Nan							
J0102	9:08am	Red Nor							
J0103	9:15am	Fruit Flies on the Radical Track Tal							
J0104	9:22am	Got Carrots? Does Adding Tay							
J0105	9:29am	Species vs. Species Tho							
J0106	9:36am	Tracing the Footprints: Exploring Isa							
J0107	9:43am	Creating An Ecosystem Jul							
S0101	10:00am	Hippodamia Convergens Iml							
S0102	10:08am	Copepod Culturing: Conditions Jul							
S0103	10:15am	Effects of Food Types on Adr							
S0104	10:22am	Effect of Light on a Tidepool- Lil							
S0105	10:29am	The Effects of Magnetism on the Jen							

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**CREATIVITY (30 points total)**

- 1) Problem is original or is a unique approach to an old problem (considering the student's grade level)
- 2) Equipment and materials are used ingeniously
- 3) Interpretation of data is appropriate for student's grade level
- 4) Applications of project information shows student's creative involvement
- 5) Student shows evidence of understanding that unanswered questions remain
- 6) Creativity is evident

**THOROUGHNESS (15 points total)**

- 1) The study is complete within the scope of the problem
- 2) Scientific literature has been searched
- 3) Experiments have been repeated and careful records have been kept

**SKILL (15 points total)**

- 1) Special skills needed for construction or use of equipment is evident
- 2) Special mathematical, computational or observational skills are evident
- 3) Project is skillfully designed so that it yields valid, reliable and accurate data

**CLARITY (10 points total)**

**SCIENTIFIC THOUGHT (30 points total)**

- 1) The hypothesis is clearly stated and the project clearly designed
- 2) The project shows depth of study and effort
- 3) Project exhibits orderly recording and analysis of data
- 4) Sampling techniques and data collection are appropriate for the problem
- 5) Scientific procedures are appropriate and organized
- 6) Conclusions formulated are logical, based on the data collected, and are relevant to the hypothesis

or

**ENGINEERING GOALS (30 points total)**

- 1) The project has clear objective relevant to needs of potential user
- 2) Product or process has been tested
- 3) Product or process is both workable and feasible economically and ecologically
- 4) Project exhibits orderly recording and analysis of data
- 5) Testing procedures are appropriate and organized
- 6) Conclusions are logical and based on the data collected



# Judges Scoring Sheets (old)

- Each judging team should use this form **ONLY** for your **top Honorable Mention** “State Fair Alternate”
- *These help the team determine who will fill the limited “extra” California State Science Fair Spots!*
- *Comments on this one form are valuable!*

For Office Use Only  
Affix Student Name Label Here

**A. Creativity (30 points total)**

1. The problem is original or is a unique approach to an old problem (considering the student's grade level)
2. Equipment and materials are used ingeniously
3. Interpretation of data is appropriate for student's grade level
4. Applications of project information shows student's creative involvement
5. Student shows evidence of understanding that unanswered questions remain
6. Creativity is evident

<b>Creativity Total</b>	
-------------------------	--

**B. Scientific Thought or Engineering Goals**

**Scientific Thought (30 points total)**

1. The hypothesis is clearly stated and the project is clearly designed
2. The project shows depth of study and effort
3. Project exhibits orderly recording and analysis of data
4. Sampling techniques and data collection are appropriate for the problem
5. Scientific procedures are appropriate and organized
6. Conclusions formulated are logical, based on the data collected, and are relevant to the hypothesis

<b>Scientific Thought Total</b>	
---------------------------------	--

OR

**Engineering Goals (30 points total)**

1. The project has clear objective relevant to needs of potential user
2. Product or process has been tested
3. Product or process is both workable and feasible economically and ecologically
4. Project exhibits orderly recording and analysis of data
5. Testing procedures are appropriate and organized
6. Conclusions are logical and based on the data collected

<b>Engineering Goals Total</b>	
--------------------------------	--

**C. Thoroughness (15 points total)**

1. The study is complete within the scope of the problem
2. Scientific literature has been searched
3. Experiments have been repeated and careful records have been kept

<b>Thoroughness Total</b>	
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**D. Skill (15 points total)**

1. Special skills needed for construction or use of equipment is evident
2. Special mathematical, computational or observational skills are evident
3. Project is skillfully designed so that it yields valid, reliable, and accurate data

<b>Skill Total</b>	
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**E. Clarity (10 points total)**

1. The project notebook is well organized, neat and accurate
2. The purpose, procedures and conclusions are clearly outlined and the title accurately reflects the problem

<b>Clarity Total</b>	
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<b>Total Points for Project</b>	
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SPECIAL COMMENTS OR CLARIFYING STATEMENTS (USE REVERSE SIDE IF NECESSARY)

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SIGNATURE OF JUDGE

DATE SIGNED



# Award Sheets

- Judging Chairs will have Award Sheets that need to be filled in with 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, HM, or “State Fair Alternate” and ***turned in by 4:30pm***
- ***Covered by barcodes at checkout time***
- ***Note all “No Show” projects with a NS***

<b>Alexis Acosta</b> Olive Vista Middle School (2)  TEAM PROJECT J19-101 3081	<b>Egg Float</b> <b>HM</b> Science Fair Place	<b>Yes</b> State Fair Alternate
<b>Dayo Adeshero</b> Monroe, Albert Middle School  INDIVIDUAL PROJECT J19-102 2848	<b>3rd</b> Science Fair Place	State Fair Alternate
<b>Alma Alvarez</b> Davis, Gen. Benjamin O., Jr. Middle  INDIVIDUAL PROJECT J19-103 3013		
<b>Matthew Arnall</b> St. Monica Academy  INDIVIDUAL PROJECT J19-104 3923	<b>HM</b> Science Fair Place	State Fair Alternate
<b>Yardan Arzumaniyan</b> Merdinian  INDIVIDUAL PROJECT J19-105 3093	<b>1st</b> Science Fair Place	State Fair Alternate

# Award Sheets

- Write-in boxes will allow **Judging Chairs** to compile **comments** about your 1<sup>st</sup> place winner and Smedley nominee, as well as Special Awards.
- Justify WHY!

Project Number: _____	Student Name/s _____
<div style="background-color: #cccccc; height: 80px; width: 100%;"></div>	<div style="background-color: #cccccc; height: 80px; width: 100%;"></div>
<b>Sweepstakes Winner</b>	<b>ISEF</b>
<div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div>	<div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div>
<b>Sweepstakes Justification</b> 1) In 1-2 sentences, please comment on why your Sweepstakes Winner and/or top Team Project may be a particularly good candidate for the Sweepstakes Award. Project is not exemplary.	<b>ISEF Justification (Senior Division Only)</b> 1) In 1-2 sentences, please comment on why your Sweepstakes Finalist (1st Place Winner) and/or top Team Project is particularly good candidate for ISEF. 2) Please state if why the project is not exemplary.

Project Number: _____
Student Name: _____
<div style="background-color: #cccccc; height: 80px; width: 100%;"></div>
<b>Darrell Smedley Award</b>
<div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div>
<b>Smedley Award Justification</b> "I Did It Myself" – no assistance from parents, teachers, other adults or peers.

Project Number: _____
Student Name: _____
<div style="background-color: #cccccc; height: 80px; width: 100%;"></div>
<b>Darrell Smedley Award</b>
<div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 20px; width: 100%;"></div>
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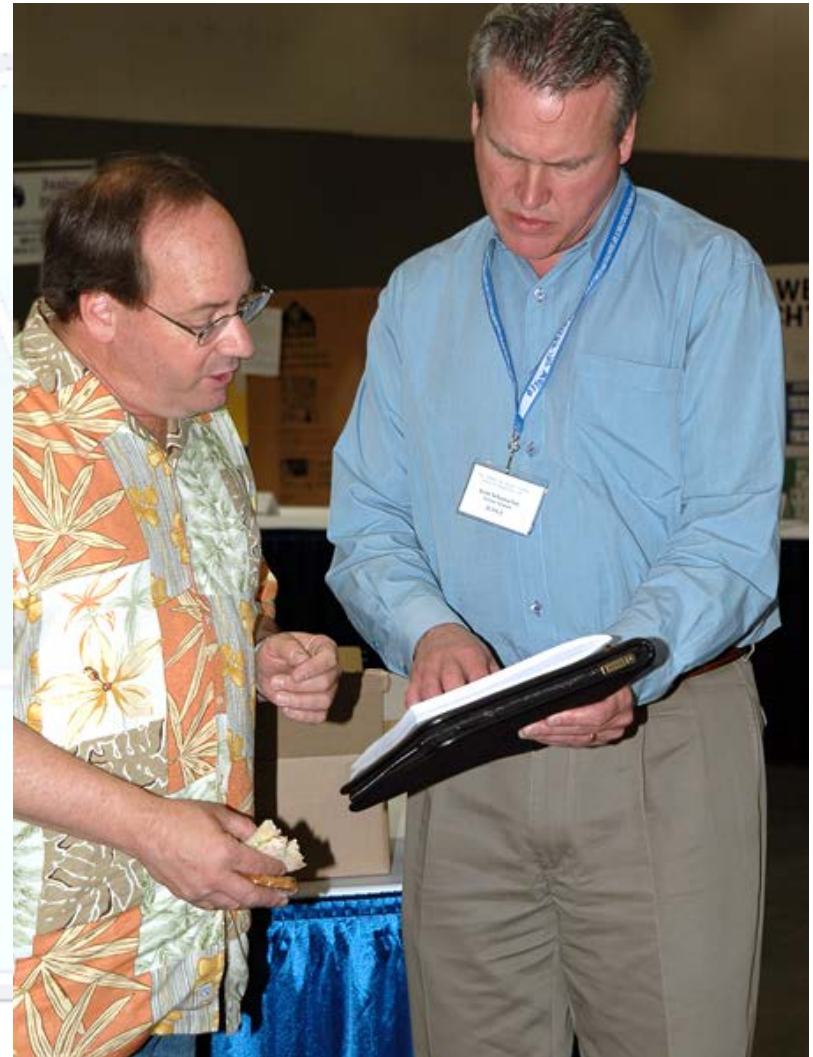
# Timetable Review



- **9am – 11:45** Scheduled interviews with students in teams of 2 or more judges.
- **11:45-1:30** LUNCH (staggered by categories-*Seniors first*) - take a few minutes to meet as a team and review strong projects so far!
- **1:30-3:30** Afternoon judging: students sit by projects. *Top projects should be interviewed by each judge by end of day.*
- **3:30 or earlier** Students are dismissed by their panel
- **3:30 – 5:30** Lunch and Judging team will determine 1st, 2nd, 3rd, and up to 10 Honorable Mention winners. Chair **MUST** turn in final award & scoring sheets by 5:30pm

# Ask for Help

- **At the judging headquarters table**
  - **We are there to help in *any* way we can!**





# If You Want to Be More Involved...

- **Join the Fair Planning Committee!**
  - Email Jennifer Moses [jmoses@lascifair.org](mailto:jmoses@lascifair.org)



# If You Want to Be an ISEF judge in LA in future years

- Email Emily Hoffman, Judging Chair [ehoffman@lascifair.org](mailto:ehoffman@lascifair.org)
- *She will pass your request along to ISEF (in LA in 2017!)*

***Thank you for contributing  
your time and expertise to  
the students of  
Los Angeles County!***





# **Designed by**

**Dean Gilbert**

**Anne Maben**

**Margery Weitkamp**

**Marshall Vallelunga**

**Emily Hoffman**

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***LA County Science Fair Committee***

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