

***Science***  
**MONTGOMERY**

Writing an Effective Abstract  
Talking to Judges  
Rules Clarification: Question & Answer

# Talking to the Judges

- How to look and sound
- What to say to begin
- Organization of your presentation
  - Guidelines for Judges
  - Keep it concise
  - Guide the discussion back to your main point

# Effective communicators eliminate distractions, create attention

## EYE

- Eye contact
- Body Motion
- Gestures
- Hands
- Head Motion
- Facial Expressions
- Posture
- Mannerisms
- Swaying
- Dress
- Grooming

## EAR

- Inflection (Pop)
- Pace
- Pauses
- Tone/Pitch
- Volume/Projection
- “Ums, Ahs, You Know, OK”
- Jargon/Acronym
- Repetition
- Simple
- Personal
- Humor (Joke)

Practice in front of a mirror.

# Respect your Judges

Assume the judges have a sound background in your field. They'll ask if they don't.

Judges are after certain data prescribed by the Judging Guidelines/Criteria

- Prepare for Judges question, "Please explain your project to us"
  - Combine "purpose" and "conclusion" sentences from Abstract into brief 30-second "elevator speech" to quickly impress judges!
  - Then cover entire project in 2-3-4 minute speech, following Abstract (# in your category sets time)

# Judging Guidelines

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# Judging Criteria: Creative Ability

- 1. Does the project show creative ability and originality in the questions asked?
  - the approach to solving the problem?, the analysis of the data?, the interpretation of the data?
  - Equipment: the construction, design/modification of new equipment?
- 2. A creative contribution promotes an efficient and reliable method for solving a problem.

# Judging Criteria: Scientific Thought (Science)

Is the problem stated clearly and unambiguously?

- Was the problem sufficiently limited to allow plausible approach?
- Was there a procedural plan for obtaining a solution?
- Are the variables clearly recognized and defined?
- If controls were necessary were they correctly used?



# Judging Criteria: Scientific Thought (Science)

Are there adequate data to support the conclusions?

- Does the student/team recognize the data's limitations?
- Does the student/team understand the project's ties to related research?
- Does the student/team have an idea of what further research is warranted?
- Did the student/team cite scientific literature, or only popular literature (i.e., local newspapers, Reader's Digest).

# Judging Criteria: Scientific Thought (Engineering)

Does the project have a clear objective?

- Is the objective relevant to the potential user's needs?
- Is the solution workable: acceptable to the potential user, economically feasible?
- Could the solution be utilized successfully in design or construction of an end product?
- Is the solution a significant improvement over previous alternatives?
- Has the solution been tested for performance under the conditions of use?

# Judging Criteria: Thoroughness

- Was the project carried out to completion within the scope of the original intent?
- How completely was the problem covered?
- Are the conclusions based on a single experiment or replication?
- How complete are the project notes?
- Is the student/team familiar with scientific literature in the studied field, other approaches?

# Judging Criteria-Skill

- Does the student/team have the required laboratory, computation, observational and design skills to obtain supporting data?
- Where was the project performed? Did the student or team receive assistance/supervision from adults.
- Where did the equipment come from? Was it built independently by the student or team, obtained on loan, in a laboratory where the student or team worked?

# Judging Criteria-Clarity

- How clearly does the student or team discuss the project and explain the purpose, procedure, and conclusions?
- Does the written material reflect the student's or team's understanding of the research?
- Are the important phases of the project presented in an orderly manner?
- How clearly are the data and results presented?
- How well does the display explain the project?

# Make it Snappy

**Short is good, no, make that GREAT!**

$$E = mc^2$$

Ian Wilmut published his cloning of Dolly in 3 pages (*Nature*, 1997).

Watson & Crick announcing the structure of DNA, ran just over one page. (*Nature*, 1953).

# Vigorous writing and speaking are concise

- Give the judges the truth and be ready to support it.
- The speaker should make all his/her sentences short and every word count.
- Brevity + Weight

(Charles Krauthammer, Time, July 21, 1997)

# Getting ready for difficult questions

Give the judges the truth and be ready to support it.

Issue

Response

Main Point/Assertion: What you are telling the judges

Support: Facts--examples, stats

Color—quotes, analogies, clichés, personal experiences

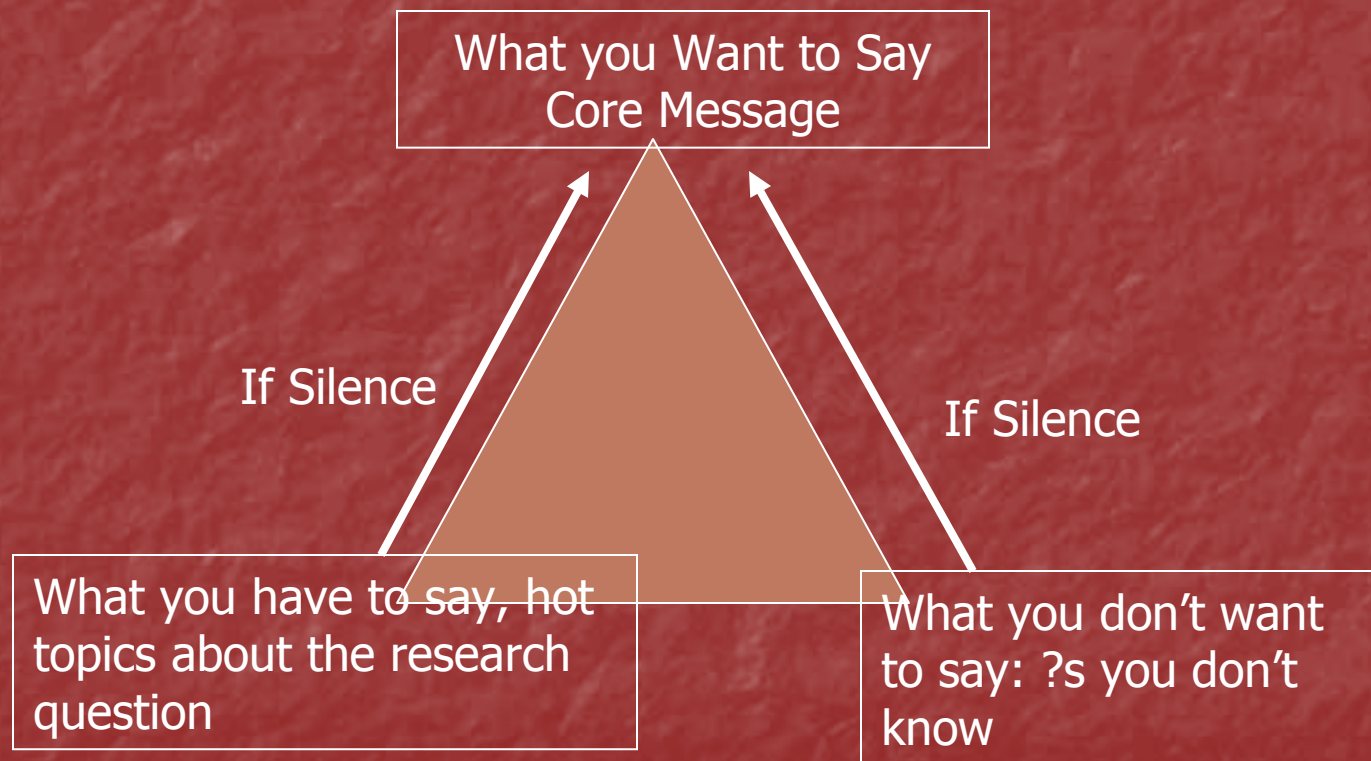
Absolutes & Predictions—be wary of claiming too much

Admit limits of research:

Conclusion: emphasize, even if “no results”



# Strategy for tough questions



# Overall *ScienceMONTGOMERY* Goals

- Celebrate Science
- Share the excitement
- [www.ScienceMONTGOMERY.org](http://www.ScienceMONTGOMERY.org)