

How to give a good research talk

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Outline

- What to Say and How to Say It
- Getting Through to the Audience
- Visual Aids
- Question Time
- Conclusion

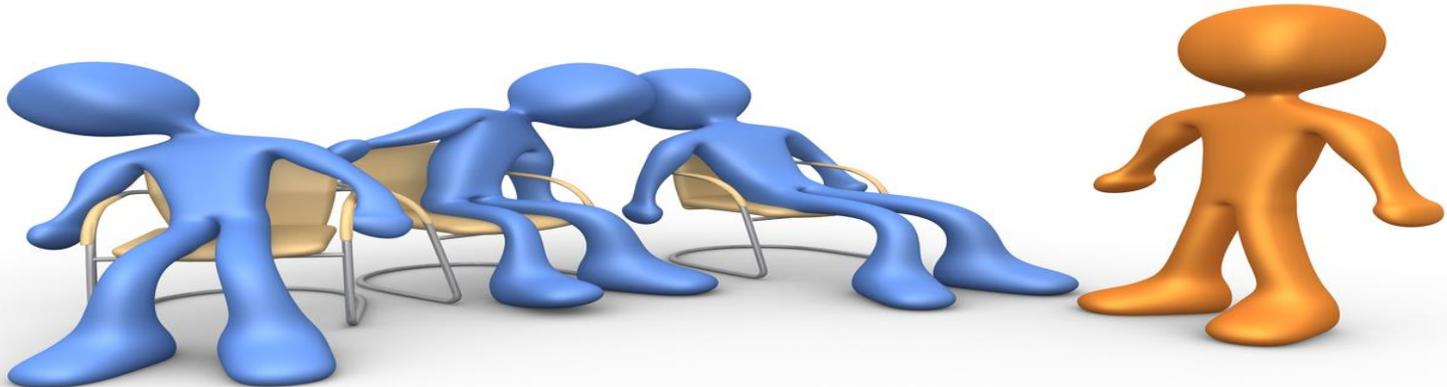
What to Say and How to Say It

- Communicate the Key Ideas
 - Talk emphasizes the key ideas
 - Use motivating examples to guide your work



What to Say and How to Say It (Cont.)

- Don't get Bogged Down in Details
 - Saying enough without saying too much
 - Say enough to convey the essential content of your idea but not overwhelm your audience with too much material
 - Treat some aspects in more details than others
 - Give a straight example which demonstrate the problem you are addressing



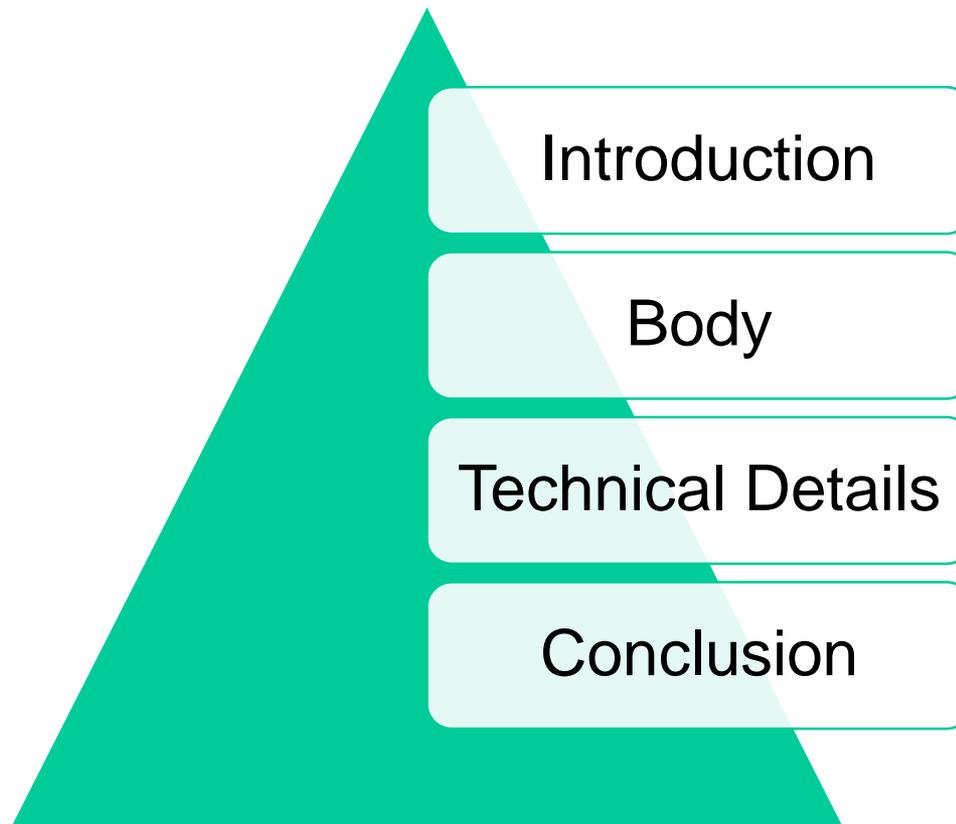
What to Say and How to Say It (Cont.)

- Structure Your Talk
 - Presentation should be broken into several distinct parts with it's own objectives and style
 - Each part should be clearly explained
 - Guiding the audience gently from one part to the next
 - A well structured talk is easier to understand than a rambling, unstructured one
 - A well structured talk make more efficient use of time



What to Say and How to Say It (Cont.)

- Use a Top-down Approach



What to Say and How to Say It (Cont.)

- Use a Top-down Approach
 - The Introduction
 - Define the Problem
 - To lay a foundation for a good talk, It is first required to actually communicate the PROBLEM in hand to the audience in simple words



What to Say and How to Say It (Cont.)

- Use a Top-down Approach
 - The Introduction
 - Motivate the Audience
 - Highlight the importance of the problem
 - Where does the problem fits into the bigger picture



What to Say and How to Say It (Cont.)

- Use a Top-down Approach
 - The Introduction
 - Introduce Terminology
 - Explain the terminologies and the jargon
 - It is also useful to remind the audience of the definitions at critical points later in the talk



What to Say and How to Say It (Cont.)

- Use a Top-down Approach
 - The Introduction
 - Discuss Earlier Work
 - Be sure to mention the author of each paper and its date of publication
 - Compare and contrast them with each other and with yours



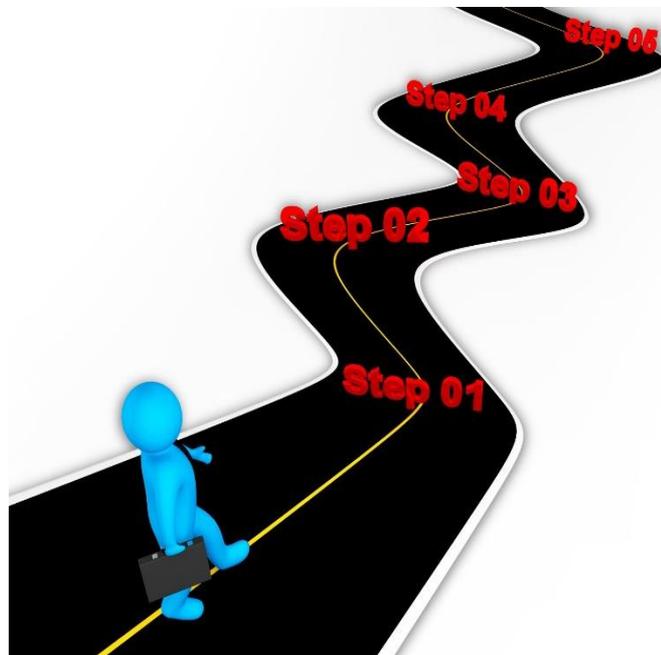
What to Say and How to Say It (Cont.)

- Use a Top-down Approach
 - The Introduction
 - Emphasize the Contributions of your Paper
 - Mention your valuable contributions
 - Often it is the only thing that they carry away from the talk



What to Say and How to Say It (Cont.)

- Use a Top-down Approach
 - The Introduction
 - Provide a Road-map
 - Provide a guide line for the talk



What to Say and How to Say It (Cont.)

- Use a Top-down Approach
 - The Body
 - Abstract the Major Results
 - Give basic algorithms, methods or process but not their in depth details
 - Explain the Significance of the Results
 - Provide some technical details (if any) related to the contributions made to develop further understanding
 - Sketch a Proof of the Crucial Results
 - Also give high level description about the proofs, algorithms or methods



What to Say and How to Say It (Cont.)

- Use a Top-down Approach
 - Technicalities
 - Present Key Lemma(s)
 - Explain at least one key result
 - Present it Carefully
 - Provide the audience the information they are here for i.e. your work
 - Stay focused on your work and don't go into too much technical details

$$t = \frac{-50 \pm \sqrt{50^2 - 4(-16)(6)}}{2(-16)}$$

$$t = \frac{-50 \pm \sqrt{2500 + 384}}{-32}$$

$$t = \frac{-50 \pm 53.7}{-32}$$

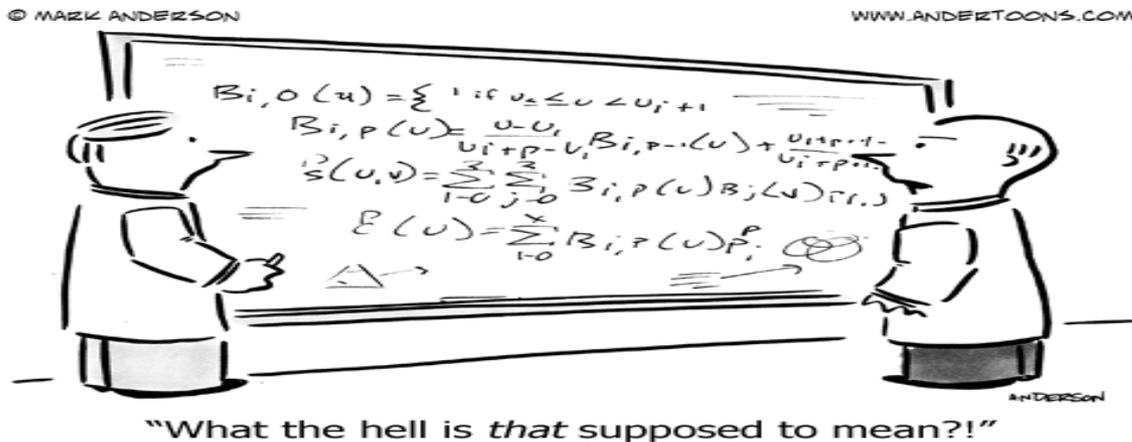
$$t = 3.24 \text{ seconds or } t = -.11 \text{ seconds}$$

What to Say and How to Say It (Cont.)

- Use a Top-down Approach
 - The Conclusion
 - Hindsight is Clearer than Foresight
 - Provide a brief overview of the what you have explained so far in the previous sections to grab attention
 - Give Open Problems
 - Mention weaknesses of your paper, possible generalizations, and indications of whether they will be fruitful or not
 - It will defuse antagonistic questions during question time
 - You may receive valuable suggestion about those
 - Indicate that your Talk is Over
 - Closing remarks for the talk may be like “Thank you. Are there any questions?”

What to Say and How to Say It (Cont.)

- Know Your Audience
 - Scientists
 - These people are not from computer science background
 - Emphasize the Introduction and the Body. Omit the Technicalities section
 - Computer Scientists
 - Provide minimum technical details
 - Emphasize the Introduction and the Body



What to Say and How to Say It (Cont.)

- Know Your Audience
 - Theoretical Computer Scientists
 - Emphasize should be on the Body of the talk and technical details can be provided
 - Experts
 - Emphasize on the Body and the Technicalities of the talk

Getting Through to the Audience

- Use Repetition
 - “Tell them what you're going to tell them. Tell them. Then tell them what you told them”
- Remind, don't Assume
 - Remind the audience about the understanding of the standards as per your talk
- Don't Over-run
 - Plan the talk time efficiently and don't over-run the allocated time duration
 - If you are given x minutes of the time then practice for x-y minutes where y is the time for Q&A

Getting Through to the Audience (Cont.)

- Maintain Eye Contact
 - Don't focus on a person or a group but look for people at random
 - During conferences periodically look at the session chair who will signal you about the time
- Control Your Voice
 - Avoid monotone and information-free utterances (“um, ah, er”, etc)
- Control Your Motion
 - Don't stand still and don't move too much
 - Use natural gestures

Getting Through to the Audience (Cont.)

- Take Care with Your Appearance
 - Formal or smart casual dressing
- Try Not to Get Anxious
 - Practice the talk in front of your colleagues or supervisor
 - Before the talk spend some time alone looking at your presentation and building the thoughts around those
 - Don't pay undue attention to the reaction of someone in the audience

Visual Aids

- Make your slides legible
 - Use standard presentation fonts and formatting
- Use color effectively
 - Use font color where necessary to highlight important information
- Use Pictures and Tables
 - Use tables to demonstrates results
 - Use pictures to demonstrate models, systems or to give examples
- Beware of the Microphone
 - It is good to practice how to attach/detach microphone before the talk

Question Time

- Prepare for three type of question
 - Genuine request for knowledge
 - Question related to your talk
 - If you are fully prepared then there will be no difficulty to explain
 - Selfish question
 - Question asked by a knowledgeable person for the purpose of drawing attention
 - Take a few seconds to compose a reasonable answer
 - Malicious question
 - Questioner asked this question to merely expose the speaker as charlatan and a dissembler
 - Be prepared and be polite, don't go into lengthy discussion, take them off-line

Conclusion

- A good research talk are a fundamental part of research excellence
- A greatest idea are worthless if you keep them to yourself
- Research talk advance your idea, communicate with others, get feedback, and build relationships with research community

Reference

1. Simon L. Peyton Jones, John Hughes, and John Launchbury. How to give a good research talk. SIGPLAN Notices, 28(11), 1993.
2. Ian Parberry. How to present a paper in theoretical computer science: A speaker's guide for students. SIGACT News, 19(2):42–47, 1988.

Thank you 😊

