

# 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

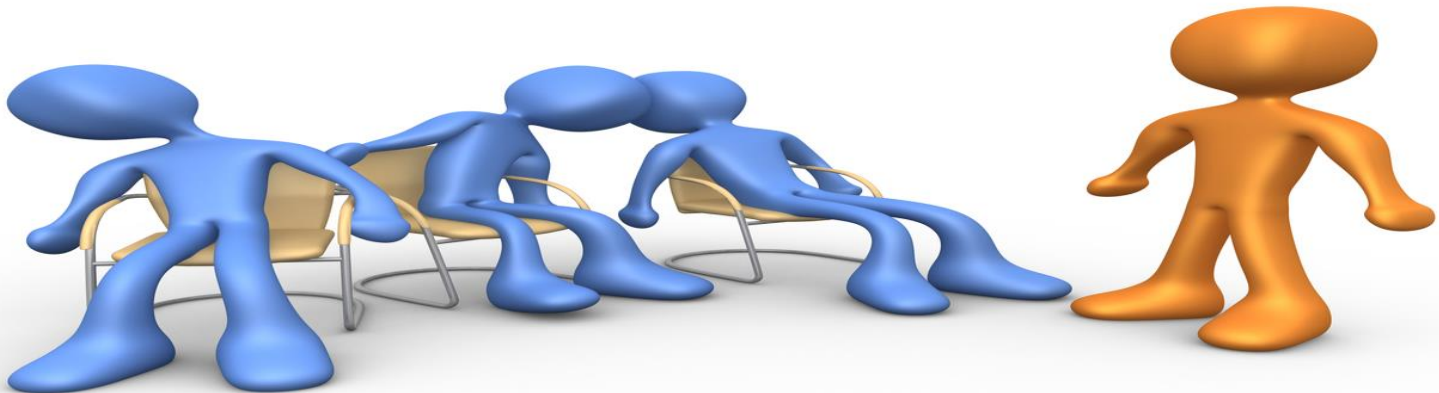
# What to Say and How to Say It

- 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



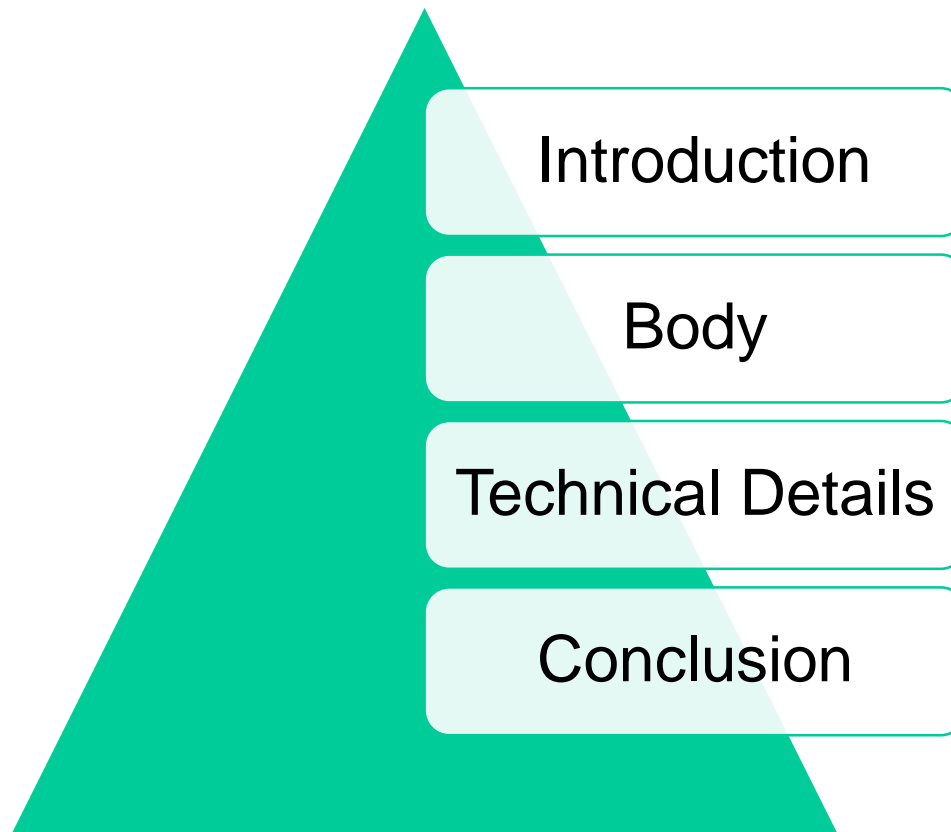
# What to Say and How to Say It (Cont.)

- 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



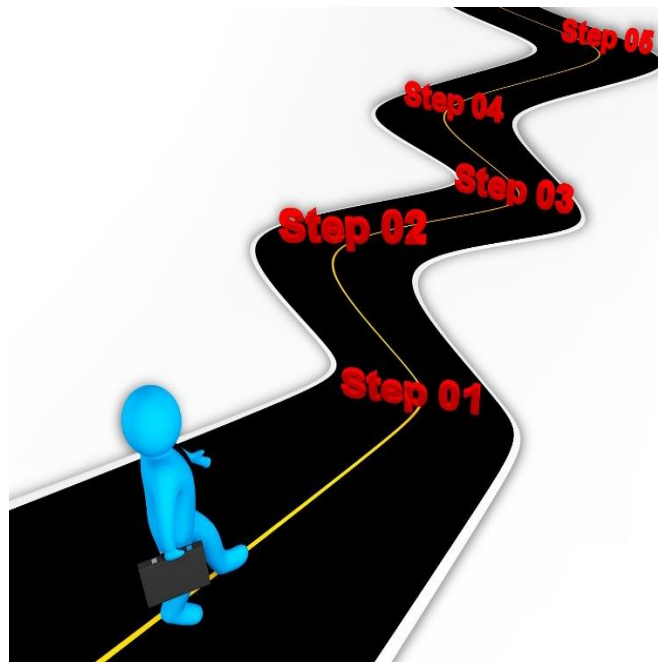
# What to Say and How to Say It (Cont.)

- 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

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

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

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

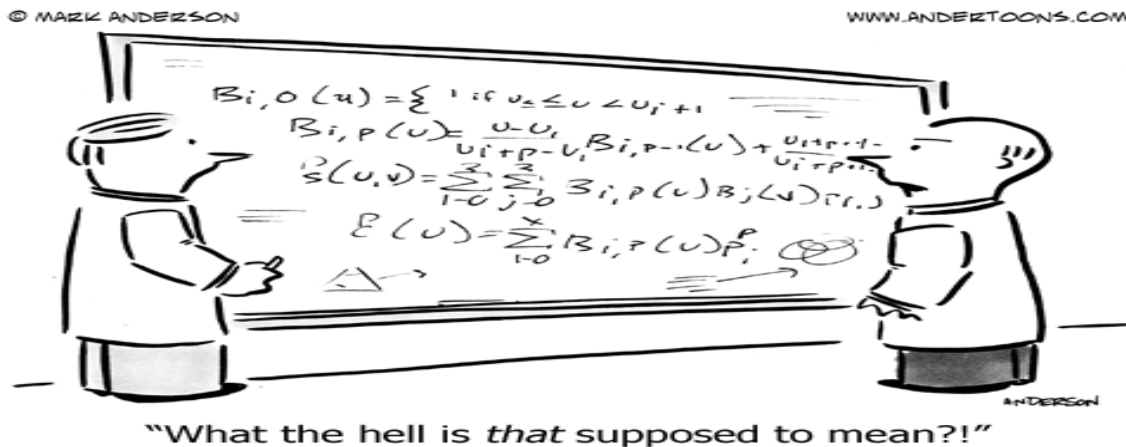
$$t = 3.24 \text{ seconds or } t = -.11 \text{ seconds}$$

# 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 😊

