How to Give a Good Research Talk

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Why Are We Here?

- For your work to have significant impact, it is essential that you can convey results to your community
- Your technical reputation depends on colleagues' reaction to your talk
- Remember, when on the job market this skill will be crucial in getting a research position in academics or industry
- Giving a good talk is a skill you can learn
- I will give you guidance and tips on giving a good talk

Goals of a Talk

- Meta-Goal:
  - keep audiences' interest (and attention)
  - convey technical material
  - communicate a key idea of work
  - provide intuition
  - convince audience to read your paper
- Non-Goals:
  - show people how smart you are
  - expect audience to understand most key details of your work

Outline

- Goals of a Talk
- Planning Stages
- Structuring Your Talk
- Transparency Preparation
  - The Do's
  - The Don'ts
- At the Talk
  - The Do's
  - The Don'ts
- Concluding Remarks

Planning Stages

- Know your audience:
  - What is their background?
    - general CS (or EE)
    - somewhat specialized audience
    - highly specialized audience
- If someone has spoken before you:
  - Look at paper/abstract of relevant talks that proceeded yours
  - Prepare to use context provided

Scheduling (if you can)

- If possible schedule your talk at 11:00
  - most people are awake
  - few have gone back to sleep
- Bad times to schedule talk:
  - after lunch since the audience is more likely to be sleepy
  - late afternoon since people will be running out of steam
- Best to have room that will be comfortably crowded

Structuring Your Talk

Use a top-down approach:

1. Introduction (define problem, present a “carrot”, and put in context)
2. Body (high level summary of key results)
3. Technicalities (more depth into a key result)
4. Conclusion (review key results and wrap up)

The Introduction

- Define the Problem
  - minimize use of terminology
  - use pictures/examples/props if possible
- Motivate the audience (give a “carrot”)
  - Why is problem important?
  - How does it fit into larger picture?
  - What are applications?
- Discuss related work
  - table useful (mention authors and dates)
- *Succinctly state contributions of your work*
- Provide a road-map (outline)

The Body

- Abstract the key results
  - focus on a central, exciting concept
- Explain significance of your work
- Sketch methodology of key ideas
  - keep it high-level emphasizing structure
  - use pictures/diagrams if possible
  - provide intuition (helpful when someone later reads your paper)
  - gloss over technical details

The Technicalities

- Take key result (or part of it) and go into some depth
- Guide audience through difficult ideas
  - give overview
  - state result
  - show an example
  - review
- It is this portion of your talk that typically grows when you give a 50 minute talk

The Conclusion

- Provide a coherent synopsis
- Review key contributions and why they are important
- Discuss open problems/future work
- Indicate your talk is over. (For example, “Thank you. Are there any questions?”)
- Be ready to answer questions
  - If there are points you glossed over that you expect the audience may be interested in, you may want to prepare some transparencies (just in case)

Transparency Preparation - Do’s

- Decide what you want to say and say less!
- Allow an average of 1.5 - 2 minutes for each transparency
- Use Repetition
  - “Tell them what you’re going to tell them. Tell them. Then tell them what you told them.”
  - Realize that 20% of your audience at any given time is thinking about something else
- Use Pictures/Diagrams whenever you can

Transparency Prep - Do's (cont)

- Use a large font (at least 20 pt)
- Make neat/orderly transparencies
  - use computer-generated slides if expected
- Use overlays
- Use color (in a meaningful way)
- You need not use full sentences
- Number your transparencies in case you drop them
- Write reminders, key phrases and such on paper between transparencies or on frames

Transparency Prep - Do's (cont)

- Check your spelling
- If you use a transparency more than once duplicate it
- PRACTICE!
  - give a practice for your colleagues
  - be ready to redo all your transparencies
  - practice again
  - be sure that all your material projects on the screen
  - make sure it does not take too much time

Transparency Preparation - Don'ts

- Overload transparencies
- Intend to use too many transparencies
- Put some detail on the slide that you do not want to talk about
- Get bogged down in details
- Try to give a core dump
- Half cover slides (this draws attention to the COVERED part - the fashion industry has exploited this for years)

Transparency Prep - Don'ts (cont)

- Show complex equations
- Show code (even LISP/Scheme)
- Have a transparency that introduces a point that you are unsure of (unless you want to give the audience a chance to attack you)
- Present last minute results (they are probably wrong)
- Have transparencies that you are not using mixed in with the rest
- Write messy, write too small, misspell words

At the Talk - Do's

- If you expect the audience to take notes provide copies of your transparencies (this is rarely the case in a conference or colloquium/job talk situation)
- Dress appropriately - this shows respect for your audience
- Have eccentricity (but not too extreme)
  - make it fun/easy for people to remember you
  - extreme eccentricity is bad for younger people

At the Talk - Do's (cont)

- Be *EXCITED* about your work!
- Remind Don't Assume
  If you assume a standard result provide the audience with a brief *reminder*
- **Talk with Sufficient Volume**
- Make Eye Contact
- Be With the Audience
  Walk toward and away from the people as well as left and right to break down implicit barrier

At the Talk - Do's (cont)

- Point to the screen not transparency
- Bring props
- Ask real and rhetorical questions to keep audience engaged
- Deflect obstructionists
  tell them you'd like to talk to them after the talk (about the interesting point made) because the point is a detail, tangential, has a long answer, you need to think about it, ...
- End on Time!

At the Talk - Don'ts

- Talk too softly, mumble, or speak in a monotone voice, use "um", "ah", ...
- Read your transparencies
- Focus attention on the screen - you'll end up talking to the screen vs. the audience
- Stand so that you block the projection
- Mention a detail/point you don't want to talk about
- Darken the room (unless necessary to see) since it entices audience to sleep
- Babble on when you have nothing to say
- Over-run your time

Concluding Remarks

- Follow the guidelines provided here
- Take every opportunity you can to give talks (and thus get practice and feedback)
- Remember that the guidelines for structuring your talk must be adapted to each specific talk
- Preparing a good talk takes time, do not expect to throw it together last minute
- Practice for colleagues to get feedback
- AND ... you will give better talks and reap all the rewards that follow