

# How to Give a Decent Scientific Presentation

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## Presentation Style

### Talk to the audience!!

- NEVER, EVER read a talk. Memorize it, if you have to, but don't read it, ever.
- **Look at the audience** NOT at the screen. WE DO NOT WANT TO SEE YOUR BACK!
- Move around a little: it relaxes you, it relaxes them.
- Use a pointer (laser or otherwise).

### Display Time for Slides

Always leave a slide on the screen for at least 30 seconds.

Overlaying slides provides a nice effect, if you want to illustrate sequential events or answer a question you ask the audience. This is easy to do with Power Point.

Do not use the ridiculous backgrounds provided by Power Point. In 99 cases out of 100, they distract from what you are saying.

### 50-word Limit, fonts, and colors

- Each screen should contain about 50 words, no more than 70, max.
- Never use fonts smaller than 16 pt (this is 18 pt.), always use bold.
- Never use more than three colors (black + two others)
- Never use any superfluous characters, symbol, clip-art, etc.



These things may be cute, but they distract. Don't use them.

- **DO NOT use things that move around on the screen!! EVER.**

• Remember: Power Point is great, but only if used correctly. Some of the worst presentations I have ever seen have been done in Power Point by someone trying to be fancy. Use PLAIN backgrounds, not patterned backgrounds. Never use starbursts, moving images, etc., unless they are DIRECTLY related to the information you want to convey.

**Remember: your talk is not an art show.** The only thing that counts is how clearly you convey information to the audience. Everything that could possibly distract the viewer from your content must be discarded. Continually ask yourself, "Does this improve the understanding of the point I'm making?" If not, get rid of it.

# Presentation Content

## Structure of the Talk

- Your talk title, who you are, with e-mail address (1 slide)
  - Outline (1 slide)
  - One key thing to remember (1 slide)
- 1/3: General introduction: why this is interesting/important, basic overview of main results and their general importance. This part “...could be understood by a smart 12 year old.” This is the most important part of your talk. This is what people will remember.
- 1/3: More technical: for colleagues, but not co-researchers
- less than 1/4: Research results for the people in your field
- Remainder: Conclusion with repetition of the key thing to remember (1 slide)

Remember: It never hurts to repeat yourself. Very technical points are NOT for talks, those are for coffee with specialists. Talks are to communicate information to other researchers who might be able to use one of your techniques, etc., for their own research.

The one thing that I want you to remember  
for the rest of your life when preparing a scientific talk:

**SIMPLIFY  
SIMPLIFY  
SIMPLIFY**

That’s the secret to giving a good talk.

(Every talk should have one, at most, two major points – but no more – that you repeat to the audience several times.)

### Wordy Slides: “The worst of all possible words”

- People automatically try to read what’s on the screen.
- People who are reading, are not listening.
- Long slides are too long to read, but while attempting to read them, the audience is not listening to you.

Conclusion: No information was communicated either by you or by your wordy slide.

## Figures

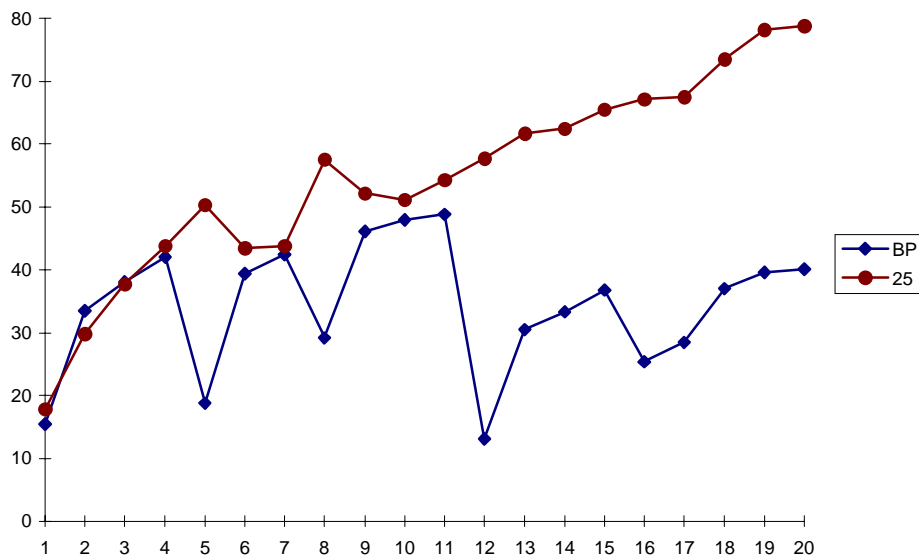
Many people just cut figures from their papers and use them for their talks.  
This is almost always a bad idea because they generally contain too much information.

### Golden rule for figures:

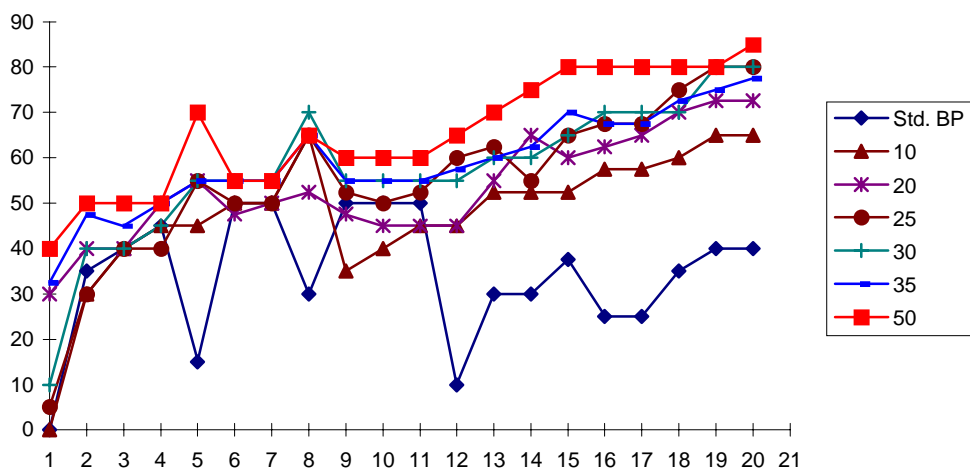
Remove ALL information from a figure, a graph, etc, that you do not EXPLICITLY talk about in your presentation.

Include ONLY absolutely essential information.

### Show this:



### Never this!





Most common mistake (to be avoided at all cost):  
the need to prove you really are a scientist

The single most common mistake of beginners (and a lot of professionals, who should know better) is to “skip the boring parts and get right to the ‘meat’ of the presentation.” This produces some of the worse talks imaginable.

The problem is that you work on your research day in and day out, week in and week out, and you lose perspective on just how hard, obscure, and technical it is – in other words, just how incomprehensible it is to outsiders. I wish I had a dollar for every time I have seen a talk that begins, “Hi, today I’m going to be talking about some work we did in bilateral vision. Basically, what we did was to increase the value of the Sperling bilateral transection parameter by about 10% without modifying the low-level cross-visual-field interference dynamics of the medial temporal inhibitors...” This is where everyone falls sound asleep (except for Sperling, who knows everything, anyway...), to be awakened 20 minutes later by the speaker’s concluding, “Thank you,” thus triggering everyone’s “polite clapping” response. DO NOT DO THIS!

Remember:

- You don’t have to prove you’re a scientist by telling everyone your hardest, most technical results. You are a scientist or you wouldn’t be giving the talk. In scientific presentations: Simple and clear = good.
- You spend your life thinking about your work. The audience will spend, maybe, 20 minutes a year (during your presentation, if you give a good one) thinking about your work. They came to get a general idea of what you are doing to see if any of it might apply to their own research. Only the ultra-specialists who you can talk to over coffee will understand anything about the technical details. Your talk is not for them: It’s for those who want to know what you’re doing and don’t already know. The first third of the talk is the most important. Work it over and over till you get it right.
- People – even famous scientists – have an incredibly low information intake capacity. Add that to the fact that they have been listening to talks all day, and you understand why you have to organize your talks according to the 1/3 – 1/3 – 1/4 formula presented above. If you do, then people will come up to you and say, “I enjoyed your talk [translation: I finally understood something...] and I have a question...” Otherwise, they will merely clap, having understood nothing. You will have wasted their time and yours.

## Time issues

Everyone sometimes miscalculates their time.  
There will usually be “5-minute, 1-minute” warnings.

### Five-minutes left:

- Write down on a piece of paper next to the computer the slides to go to at the Five-Minute Bell.
- **DO NOT** speed up and try to cram in the remainder of the whole talk you prepared. This will ruin your talk. Prepare ahead so that you don't have to do this.

### One-minute left:

You have time for AT MOST two slides.

- Go **DIRECTLY** to your Conclusion.
- This is the worst possible time to speed up.

## Questions

- Key thing to remember: the audience is on YOUR side
- You will virtually never get nasty questions. If you do, remember the audience is rooting for you, not the questioner. NEVER answer aggressively, this can turn the audience against you.

Say: “I’m not sure I agree with you, but you’ve got an interesting point. Let’s get together after the talk and discuss it.” This is the signal for the moderator to take another question.

### Unclear questions, hard questions

You are the expert; but you may get asked a very hard question, one you don’t know the answer to, or on something you hadn’t thought about (especially if, say, Rich Shiffrin is in the audience).

- Don’t get flustered. You do not have to give an answer; this is not an exam.
- Do not get defensive.
- Think about the question. Don’t answer immediately. If nothing good comes, say, “Really good question, I hadn’t thought about that aspect. Let’s talk about it later...”

### Questions you don’t understand (and ones the questioner doesn’t understand)

If you didn’t understand the question, you can be sure a lot of others didn’t either: Rephrase the question aloud.

“Let me rephrase your question to make sure I understand you clearly: <Repeat question>. Is that it?”

Often times, the questioner didn’t really understand things too well, and rephrasing it allows him/her an out, and you time to think.

Always be gracious:

Never ridicule the questioner, no matter how brain-dead the question. This will turn the audience against you.

## Conclusions

- SIMPLIFY  
Audiences have a VERY low information intake capacity. Discuss details with specialists over coffee later.
- Nothing should be extraneous
- Make one main point (never more than two) in a talk
- Repeat it as often as you like.
- Then when you get to the end of your allotted time,
- Smile,
- Thank everyone,
- And quit.