

Tips for Giving Scientific Talks

1. How does one learn to give good talks?

There are only very few "natural talents".

Often even experienced and highly competent scientists make mistakes that lead to unattractive talks that are difficult to follow - even although these mistakes are easy to avoid.

The ability to give a convincing, interesting talk is one of the elementary skills of a successful scientist.

Normally this has to be learnt through practice:

- ◆ by giving talks yourself
 - take the criticism of your hearers to heart. Ask your friends after the talk what they found good and bad about your presentation. Also learn to be self-critical and pay attention to how your listeners react.

- ◆ by carefully looking for the strengths and weaknesses of other speakers and learning from this
 - what did you particularly like about a presentation, what did you find bad, when did you best feel that you had understood something or learnt something new?

2. A Few Tips

Preparation of the Talk

- If you are not already an expert on the subject ask someone (e.g. lecturer, supervisor, colleague) to help you find the appropriate literature to make a start on your preparation.
- This will just be the starting point for your own intensive "grappling" with the material.
- Where possible and sensible refer to the original literature (e.g. original research publication) rather than secondary sources
- Look for cross references
- Separate the important from the unimportant
- Make a note of interesting figures, tables, references that you can use in your talk while reading through the literature.
- Only a small part of the material you use in preparation can be incorporated into the presentation. You have to have a broader background information/knowledge than what you are presenting (also helps with ability to answer questions from the audience)
- A good structure to the talk is important (introduction, middle, end).
- Practice the talk beforehand in front of a friend. (Failing that tape yourself and listen to how you sound and/or watch yourself giving the talk in a mirror). Always check how much time you need.

3. Transparencies etc.

Overhead transparencies are the standard medium for scientific presentations. Increasingly, graphical presentations are also being made directly from the laptop/PC (Powerpoint presentation). The same rules hold for both cases.

- Do not squeeze too much information on individual transparencies.

- Do not have too much text. The listener can't read and listen to you at the same time. Just use "buzzwords" and short phrases
- Make one point per transparency
- Avoid long calculations
- Ensure that the audience can read the text. 22pt is a good size. Never have text smaller than 18 pt.
- Text, figures etc. copied from the literature generally need to be enlarged. Nothing is more frustrating in an interesting talk than to have figures that are too small and text and figure legends that cannot be read.
- Remember that the most important members of your audience will be older scientists who are perhaps too vain to wear the glasses that they need!
- Generally a figure is more instructive than a table
- Colour is an important help to the listener. Use it to emphasise different points as well as to make attractive figures.
- If you are using black and white copied figures etc. add colour by hand to emphasise certain points and attract the audience's attention.
- Try not to be tempted to use unnecessary video effects when giving Powerpoint presentations (e.g. zooming in of text, arrows flashing on and off etc.). It tends to distract from the message of the talk and to be counterproductive.
- Try not to fall into the trap of doing something better than is necessary and spending an endless amount of time making only very slight improvements
- If you have good, legible handwriting it is perfectly acceptable to write transparencies by hand
- Often a small, instructive sketch quickly prepared by hand with colour transparency pens can save an enormous amount of time rather than using a complicated computer graphic programme to achieve the same result.
- It can be helpful to write certain things (e.g. important equations) on the board if you want to refer to them throughout the talk.

4. The Talk Itself

- Cater for your audience. Be aware of their background knowledge and interests. In general for scientific talks, but particularly if you are talking about your own area of expertise in front of a general scientific audience, use the following breakdown
 - 1/3 generally understandable with reference to what everyone should know
 - 1/3 Interesting but not too complicated discussion of your own work / review topic
 - 1/3 for the specialist who you want to convince that you have a command of the subject and have made your own original contributions.

(obviously the last point is not relevant for teaching seminars)

- Keeping to time is extremely important
 - Be sure that you will be finished on time. For beginners the time needed is generally shorter than you think (things get forgotten about in your nervousness). For experienced speakers normally a longer time will be needed. It is essential to go through the talk beforehand and time it.

It is almost as bad to be finished too quickly than to take too long

Set time limits for each section of your talk and check your time as you are giving it.

Be prepared to cut certain sections if you see that you are going to go over time

Also have extra material to pad things out if you see that you are going to be finished too quickly

A general rule for working with transparencies: 2 minutes per transparency

- General Rules

Prepare your listeners by giving a brief overview of the contents of the talk at the beginning

Don't try to work through complicated calculations but just point out the important steps

Be convincing about what you are presenting

Seek eye contact with your audience

Don't "waffle"

Look with the audience together at the screen (when you're not making eye contact of course!). i.e. use a pointer.

Use a convincing and varying (but not artificial) tone of voice. Avoid a monotone. (Try this with a tape recorder)

Occasionally waken up your audience with particular "highlights"

When referencing the work of other people always give a complete citation with the name of the authors (or at least first author followed by et al), the journal the work was published in, volume, year of publication, page.

Remember: It is natural to be nervous before giving a talk. Practically everyone is – no matter how experienced he or she is. The more practice you have the easier it will be but the "butterflies in the stomach" may never disappear completely. In fact, it would not be a good thing if they did. The extra adrenaline helps you to give a good performance.