

## Journal Club Presentations

When presenting a scientific paper, your job is not simply to reiterate what the author said, but to make the information easily understandable to your audience. Your audience needs to understand the question, why this is an important question, the question was studied (i.e. experimental approaches), and what was learned. You should use your judgment to evaluate whether the ideas presented by the authors are valid and, if not, what alternatives may exist and how they could be tested.

### *Getting started:*

Begin by writing an outline on the board so the audience can follow your talk – this helps them stay on track, and it gives them an idea how much you have left to say. If you write the outline on the board the audience can refer to your outline throughout your talk, but if you simply show the outline as part of a slideshow the audience won't remember the outline a few slides later.

Explicitly tell the audience what the question is, how the question is answered, and what the take-home points are. Don't make the audience "read between the lines". Also, don't assume that everyone in the audience will understand the methods used – they may be very smart but have a different scientific background than you. It is often useful to draw a cartoon explaining the methods used.

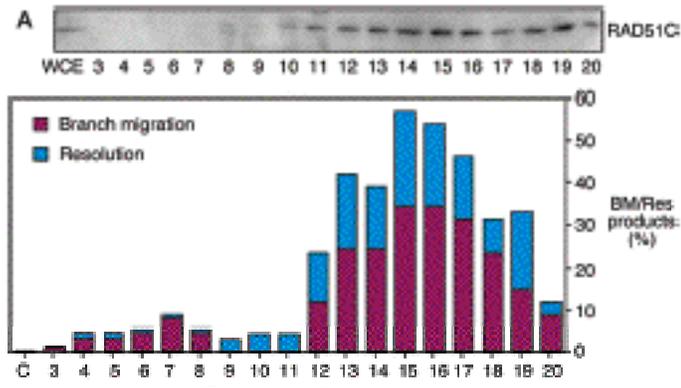
Make sure you provide sufficient background information for your audience to understand why this is an important problem, how it relates to broader biological questions, and what others have done previously. Typically it will take at least 5 min to adequately describe the background for a talk that is 20 min or longer. Remember, often a cartoon summarizing the process is better than a thousand words. When possible, tell the audience what types of experiments led to these conclusions.

It is a good idea to briefly summarize the major points on the board so the audience can refer to them at the time you present them, in the middle of your talk, and afterwards (so they can evaluate whether you convinced them of the points you told them you would make).

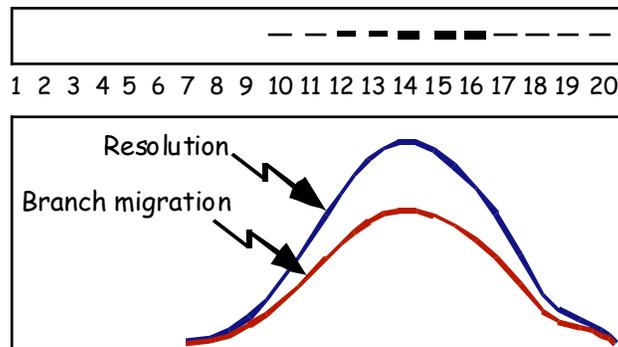
### *Presenting data:*

Often you will need to redraw the results to emphasize the major points (and if you are writing on the board, this may make it faster and easier to draw the figures). For example, the following figure from one of the presented papers might be redrawn as shown in the second figure below – the redrawn figure makes the same points and it is much easier to draw on the board.

Original figure:



Redrawn figure:



Sometimes you may want to simplify a table or figure, removing the unnecessary data so that the audience will focus on the salient results. The numbers in tables can often be rounded off without affecting the conclusion – fewer numbers makes it easier to write and it keeps your audience focused on the important point rather than insignificant differences between the 5<sup>th</sup> decimal place. In fact, sometimes it suffices to indicate differences as –, +, and ++ (e.g., if the point is simply when the activity comes off of a purification column).

It is important that the audience understands the assay used. It is impossible to evaluate what numbers mean if you do not know how they were derived, and what the controls were. Again, it is often easier to convey these points with a simple cartoon than simply with words.

Many papers present the same point in many different guises. Sometimes this is important (e.g. when proving how effective a new method is, or when making a scientific point that disagrees with previous dogma) – if so, your audience should be told. However, other times it is simply redundant and you can spare your audience by simply saying that such-and-such method yielded the same conclusion.

When you are in front of the room, use visuals to make your points – either write something on the board or point to something on the screen if you are using an overhead or powerpoint presentation. “Talking heads” are hard for an audience to follow and frequently put the audience to sleep.

### ***Powerpoint presentations:***

It is very easy to cut and paste into powerpoint presentations, but if not done carefully this can result in a talk that is unintelligible because there is too much data to explain adequately or because the pasted figures are too small for the audience to see. Some commonsense rules can avoid this problem:

- If you copy a figure from the paper it should be sufficiently large that it fills the screen and is readily readable from the rear of a large room.
- Text should fill the screen and be in a large, readable font.
- The text/figures should have maximal contrast from the background so it is easy to read -- often two colors can be distinguished on a personal computer but look nearly identical upon projection onto a larger screen.
- It is not possible to simply copy all of the figures from a paper -- you may need to draw some cartoons to describe a technique or hypothesis.
- It is easy to add miscellaneous bells-and-whistles to a powerpoint presentation – cute transitions between slides, noises, etc – but as a rule, these tricks are distracting to the audience. Keep such powerpoint tricks to a minimum.

### ***Timing:***

Although time seems to fly when you are talking, time goes much more slowly for an audience sitting passively in a dimly lit room. When you speak beyond the allotted time, the audience begins to get annoyed, and their appreciation of your talk will decrease rapidly for every minute beyond the time limit that your talk continues. Moreover, if your talk runs too long, you may not have time for questions. Hence, it is important to practice your talk so that you finish on time.

### ***Questions:***

Questions are often the most fun part of a seminar for the audience, providing a chance to participate instead of listening passively. Questions can also be the most useful part of a seminar for the speaker, revealing some great idea that you had not thought about previously.

You are expected to be an expert on the topic of your paper. You should be able to answer questions about the paper, including background, methods, content, conclusions, etc. Answers should be direct, and as short as possible. Don't hesitate to use the board if a figure would answer the question more clearly than words alone. If the answers are too longwinded then there may not be enough time for everyone to ask their questions.

You cannot know everything, so if someone asks a question you do not know the answer to it is a good idea to think about the question, then respond “that is a good question, I will look into it”, or “I'd like to talk with you about it later”, or something to that effect. Someone else in the audience may be able to provide a comment that helps clarify the answer, but the speaker should never count on someone in the audience to answer questions (including your research advisor).

### ***Group presentations:***

When you are presenting as a group, you need to coordinate who will say what and how long each person will speak before you get up to the front of the room. Carefully evaluate the presentation to make sure that something didn't slip between the cracks or whether you have unnecessary redundancy. Email is great, but to have a fine-tuned presentation will demand that you arrange a time to actually meet in person. It is essential to practice as a group to ensure that your timing is correct.

***More advice:***

Some good general advice on how to give a scientific presentation can be found on the pdf "Advice on how to give a talk" at <http://www.sci.sdsu.edu/~smaloy/MBIO600B/>