

## How to Present a Research Article

"The audience only pays attention as long as you know where you are going." - Philip Crosby

"Think like a wise man but communicate in the language of the people" - William Butler Yeats

### BEFORE PRESENTATION:

First, be cool and relaxed!... This is the most important golden rule. You can be relaxed only if you are confident in what you are presenting. Remember that nobody knows the paper as good as you.

Understand the message of the paper thoroughly and get ready with your presentation ahead of time. Take mocks if needed. Avoid 'last minute' preparations.

### Slide Design:

Remember 3 key points – **Organize, Illustrate & Repeat**

➤ **Organise slides:** For a seminar or journal club, where a paper is discussed, organise slides in the following order

- **Title (1 slide):** Snap shot picture of the paper title, including details of authors and complete address, filling the 3/4<sup>th</sup> of the slide.
- **Introduction (3-4 slides):** Give a general introduction to contents related to paper. For eg; if you are going to discuss a paper about T cell signalling protein X; then give an eagle eye overview of T cells, signalling in T cells, protein X, its functions, role in other pathways etc. **Include pictures, illustrations or schemes.** This part is very important and **spend enough time to give all necessary information's, in a very simple way.** A poor introduction is generally the first cause of distraction and people tend to lose their interest.
- **Open questions (1 slide):** After giving a general introduction, take a pause and speak a bit about the main objectives of the paper and primary questions they asked, in very simple way, which can be easily understood from contents presented in introduction slides.

You can say something like **"....now in this issue of (name of paper), authors have tried to address whether protein X is involved in T cell signalling or not and it's further downstream....."**

- **Background studies (1 slide):** Now introduce background studies (in chronological order) related to the paper. This part of the presentation is again very important, as this describes, why authors started their study and how did they made a working hypothesis based on previous observations. Such information's are generally found in the Introduction part of the paper.

You can say something like... **"a previous study in 2006 found that protein X is involved in signalling in CHO cells.... later, in 2007, study by XYZ *et al*, showed that protein X has a binding domain with protein Y in Hela cells... in 2008, a more recent evidence came from group of Dr. ABC, stating the importance of this protein as regulator of actin machinery (a downstream target of T cell signalling) in mouse fibroblasts.... Based on previous observations, authors tried to ask,**

whether the protein X might be involved in T cell signalling or not, using Primary T cells as model system.....”

The background study details can be presented as snapshots of their respective titles (including name of journal and authors) and year of their publication and animate them to appear one by one in increasing chronological order. Arrange in such a way that 3- 4 snap shots would fill the slide.

- **Figures and Results:** After you mention background study details, you can briefly include one slide about the special techniques/ methodology (optional), if they are frequently used in the paper and have to be described for better understanding of the results. For eg; you can explain in short the principle of FACS or 2D DIGE briefly, if it is used frequently, for the study.

**Give titles for your result slide as questions.** For eg; Title 1: “Does T cells have protein X?”. Show figures below (eg: western blot from primary T cells showing protein X expression/ IF staining using Antibodies).**Put the conclusion/result at the bottom of each result.** For eg; Conclusion 1: “WB and IF showed the presence of protein X in T cells.”

**Critically analyse result one by one** – (data quality, controls used, no of times, statistics etc)

- **Summary (1 slide):** After all results, **summarize the main points one by one. Use animations and make it simple and short.**
- **Future study/ Significance – 1 slide):** List down the main significance or importance of study and its future perspectives.
- **Analyze paper (1 slide):** List + and – points of paper.
- **Comment slide (optional):** Some significant studies generally have a comment in either same issue of journal or in some other journal. Include the snap shot of it and describe in brief.
- **Thank you for your attention (1 slide):** To wake up all sleeping minds!.... :)
- **Illustrate slide:** Slides are best illustrated by animations. Animate slides wherever needed; a simple “appear” tool would be sufficient. **Do not put flashing/ rotating animations or over-animate.** For graphs with many set of experiments, use “red line box” to compare 2 or 3 specific sets and get the attention of audience into those values.
- **Limit number of words per line:** 3 to 4 per line optimal, 6 to 7 maximum
- **Preferred Font** = Arial; **Preferred Font size** = 24/28 for Headings and 20 for text
- **Use color to focus on key information.** Avoid pink and yellow.
- **Avoid dark background,** unless to show some immunofluorescent pictures
- **Repeat message:**

Summary slide does this. Emphasis the main message before you end seminar.

### DURING PRESENTATION:

- **Be smart and proactive.** Always carry a smile and talk very naturally.
- **Speak fluently and use simple language.** The aim is make the audience understand what you speak, in one shot. So avoid complicated vocabulary in your talks.
- **Have a flow in speaking.** You can take your audience along with you only if you have a constant flow of speech. You can attain good flow if your slides are well organised and if you know what the next slide is. Taking some mocks would help you. Also, **be clear and audible.**
- **Face all audience;** do not speak looking at only one direction. **Be dynamic in stage,** but don't run around.
- **Use good and appropriate body language.** Use hands for explanation if needed.

### HOW TO TACKLE QUESTIONS:

This is a bit tricky and clever act and may not work with all speakers and with all audience. However, there are some guidelines which might improve to deliver correct answers:

- First, **don't be panic.**
- Try to understand the question properly; **if not clear ask politely to repeat once again.**
- **Try to analyse the question,** understand the twist in it, if any. Is it a direct or indirect?
- Now take a pause and **think very simple,** do not start thinking high immediately, as most questions are very basic.
- **Try to answer precisely and in short.** Never get deviated.
- Prefix your answer with phrases like **"I think", "in my understanding", "I believe", "If I am not mistaken"....etc.**
- If you are completely unaware of the answer; either due to poor understanding of paper, or due to lack of your knowledge to answer the question, be honest and say you don't know politely; like, **"Sorry.... I am not sure of an answer for your question, I might need to refer the paper/ I might need to investigate more details"... etc. Never bluff out!** It is a dangerous play!...
- For some teasers, you can use **Boomerang theory** - put the question back to them and make them tell answer. But try this only if you are very confident that there is no possible correct explanation.

For eg, if someone ask, "why did they use this method?", you can say politely "well, this is an interesting question.... but I would be glad to know an alternative method to do this experiment, other than this, in a better way".