

Physics 496

Introduction to Research

Lecture 8.1: Giving a Journal Club Talk
(Ingredients: 50% Lance Cooper+CME, 50% TML)

What is a “Journal Club”?

No, not this.



Though you can check out how to use such a thing on [YouTube](#).

According to [Wikipedia](#)

A **journal club** is a group of individuals who meet regularly to critically evaluate recent articles in [scientific literature](#).

Journal clubs are sometimes used in the education of [graduate](#) or professional students. These help make the student become more familiar with the advanced literature in their new field of study. In addition, these journal clubs help improve the students' skills of understanding and debating current topics of active interest in their field. This type of journal club may sometimes be taken for [credit](#).

“Critically evaluate” is key – A journal club talk is not just a summary of the contents of a paper, but a critical evaluation of the reported work.

What's special about journal club talks?

Journal club talks are different than other scientific talks; their primary purpose is not to present your results, but rather to:

- ❖ Learn about different fields
- ❖ Keep informed about new developments
- ❖ Foster discussion and interaction
- ❖ Help students (you!) develop presentation and critical analysis skills



Now that you have chosen your paper

Use last week's lecture on "Reading a Paper" as a guide to getting started.

Remember that you *will* need to read the bulk of the paper to give a coherent report on what it's about.

Read the article carefully and critically.

Follow the references for background material.

Seek out local experts (or me) if you have questions.

Talk with your team members! Trying to explain concepts to each other is an excellent way to test your understanding.

A Four-Step Program for Journal Club Talks

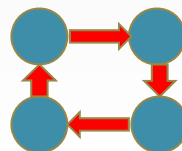
Step 1: Orient your audience

Give a "big picture" overview – What is the research about?

Why is it interesting?

What previous work does it follow from?

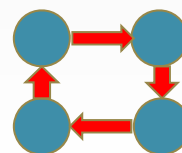
Editorialize if needed.



Step 2: Provide some detail

What have these authors done?
What technique did they use and
what is new about it?
What did they measure or
calculate?
What is their result?

Editorialize if needed.



Step 3: What does it mean?

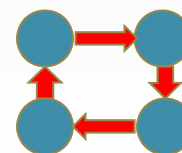
Is it consistent with previous results and/or
expectations?

Has something new been learned? What?

What conclusions do the authors draw?

Does the work point to further research?

Editorialize if needed.



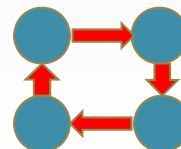
Step 4: Conclusions

Recap the authors' main messages.

Summarize the main points about the paper.

Editorialize: Do you have any doubts about the work? If so, tell us what they are! Did you think it was awesome? Tell us why.

Make suggestions for further reading.



Organizing a 20-minute scientific talk

Background and Introduction (2–4 minutes)

Title slide with authors and paper reference

Overview slide – **What is it and why is this research important?**

⇒ 1–2 slides to provide essential background

Body (9–12 minutes)

Journal Club: **What was done. What does it mean? What do you think about it?**

⇒ 5–7 slides

Summary (1 minute)

Review the main points (Journal Club talk: review both authors' and your points) ⇒ 1 slide

Questions (3 minutes) (**Know your audience!**)

⇒ 3–4 back-up slides

Numbers of slides are just a guideline. Your talk may differ.

Tips for preparing your talk

- See if you can track down the web site of the authors
 - Perhaps they have given a talk
 - Feel free to “borrow” slides
 - But make sure you acknowledge...
- Make use of web (Google! and Google Images!) to track down useful images and information
- Remember that you are not an expert either—it is not your work. Don't worry if you don't get all the details. Just try to get the essential points.
 - **Don't put things on your slides that you don't understand!**

More tips for preparing your talk

Know your audience! This dictates the level of the material.

Identify the 2-3 main points (no more!) you want to convey in the talk

Review the Feb. 22 lectures on “Effective Scientific Talks” and “PowerPoint Tips”

