

Physics 496

Introduction to Research

Lecture 8.1: Giving a Journal Club Talk
(Lance Cooper, Celia Elliott, Tony Liss, Doug Beck)

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

Have a look back at lecture on “Reading a Paper” as a guide to getting started.

Remember that you *will* need to read all of the paper to give a coherent report on what it’s about, probably several times (at least parts).

Read the article critically but carefully. It will take time and effort to sensibly conclude something in the paper is questionable.

Follow the references for background material.

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

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

Recall the outline from last week

- **What is new about the paper? (Introduction)**
- **Where does it fit in the context of prior work? (Background)**
- **What methods were used? (Methods)**
- **What were the primary results? (Results)**
- **What do the authors think these results *mean*? (Conclusions)**
- **What is your assessment of the paper? (Critique)**

Another cut: questions to consider

Orienting 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.

Another cut: questions to consider

Providing detail

What have these authors done?

What did they measure or calculate?

What technique did they use and what is new about it?

What is their result?

Editorialize if needed.

Another cut: questions to consider

What does it mean?

Has something new been learned? What?

Is it consistent with previous results and/or expectations?

What conclusions do the authors draw?

Does the work point to further research?

Editorialize if needed.

Organizing a 15 min scientific talk

(with 5 min for questions)

Title slide with authors and paper reference (1 min)

Problem/Motivation (2 min)

Background—what audience needs to know; prior work (2 min)

Methods (2 min)

Results (2 min)

Conclusions (2 min)

Your critique of the paper (2 min)

Summary: recap of main points of paper (1 min)

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, e.g., for terms or phrases you don't understand
- 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 a general journal club 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 496 presentations on making slides and giving talks