

Preparing Journal Club Talks

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'I wasn't paying attention. Could you please repeat your speech?'

Journal Club: For communicating the research of others to disseminate new results quickly

- Rules of the Club:

- You are not an expert, but you can still guide us through the research
- Choose and read the paper ...

- Look for additional resources to understand the paper – e.g., talks given by the authors, local experts, highlight articles on paper, etc.

- Understand the topic, present it clearly to the group, lead the discussion

- How to choose a paper?

- Choose an article in *Science*, *Nature*, or *Phys. Rev. Letters*
- Choose a topic that interests you or that you want to learn about
- Consider Physics Focus and Viewpoint articles

(<http://focus.aps.org/>)



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 your group informed about new developments in your field
- ❖ Foster discussions and interactions
- ❖ Help students (you!) develop presentation and critical analysis skills



Preparing your journal club talks

Read the article carefully and critically

Take notes while reading

Read related articles or background texts if necessary to understand material

Seek out local experts if you have questions about the article (come talk to me if you want suggestions on the right people to ask)



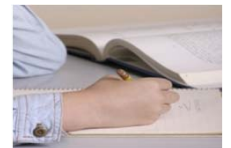
Present journal club talks in four steps

Step 1: Summarize the article

Provide details: what, when, where, why, how

What are authors' main messages?

Are there controversial issues involved?

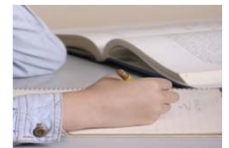


Step 2: Compare/contrast the article

Was there earlier work? (check the paper's references)

Are there disagreements with other work?

Are there alternative interpretations of these results?



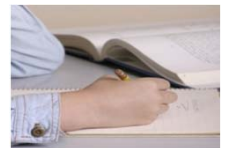
Step 3: Critique and question

Objective: Did the authors support their points?

Objective: Was the support offered valid?

Subjective: Did you find the paper interesting or important?

Subjective: Do you feel the paper will have strong impact, and if so, why?

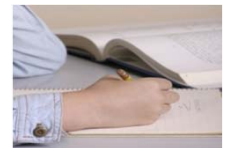


Step 4: Present your conclusions

Recap the authors' main messages

Summarize your main points about the paper

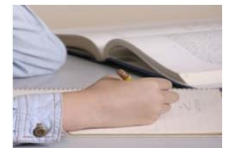
Make suggestions for further reading



Step 5: Provide a citation analysis (special)

Use the online resources we'll discuss next week to:

- Find out how much impact your paper has had
- Identify the direction the field went *after* the paper was published



Organizing a 20-minute scientific talk

Background and Introduction (2–4 minutes)

Title slide with authors and paper reference

Overview slide – **Why is this research important?**

⇒ 1–2 slides to provide essential background

Body (9–12 minutes)

Develop *only* two or three main ideas (2 slides each)

Journal Club: Provide critique of paper

⇒ 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

Tips for preparing your talk

Know your audience! This dictates the level of the material

Don't try to tell the audience everything about the paper: Identify the 2-3 main points (no more!) you want to convey in the talk

Create an outline of your talk: logical organization!
(we'll talk more about this later)



Tips for preparing your talk (cont.)

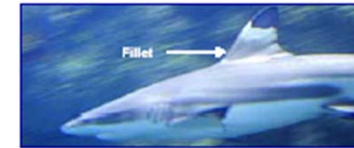
Have only 1 idea per slide:
ideally, the header
should state that idea,
and the body of the
slide should support
that idea

Use well-labeled graphs
and figures to illustrate
your key points...this
makes the slide more
real and interesting to
the audience

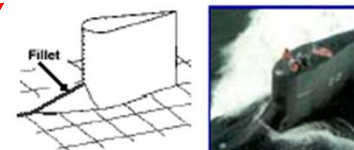
Avoid too much text....

Fillets reduce leading edge vortices in nature
and in engineering

Fillet on dorsal fin
of shark



Fillet on Seawolf
submarine



[Devenport et al., 1991]



Literature Review

- Hefner developed a dynamic model of the thermal behavior of a power MOSFET. The model is temperature-dependent IGBT electrical characteristics. The model is presented in terms of the instantaneous power dissipation and the thermal capacitance of the silicon chip. The model is used to simulate the thermal behavior of the SABER circuit simulator.
- Adam et al. studied the interactions between the heat sources, such as the power MOSFET, and the thermal conductivity of the walls and surfaces. The model is used to determine which physical effects and level of detail are needed to accurately predict the thermal behavior of discretely heated enclosures.
- Chen, Wu and others are modeling of thermal and electrical behavior using several commercial softwares (I-DEAS, Maxwell, Flotherm and Saber) and 3-D, transient approaches.

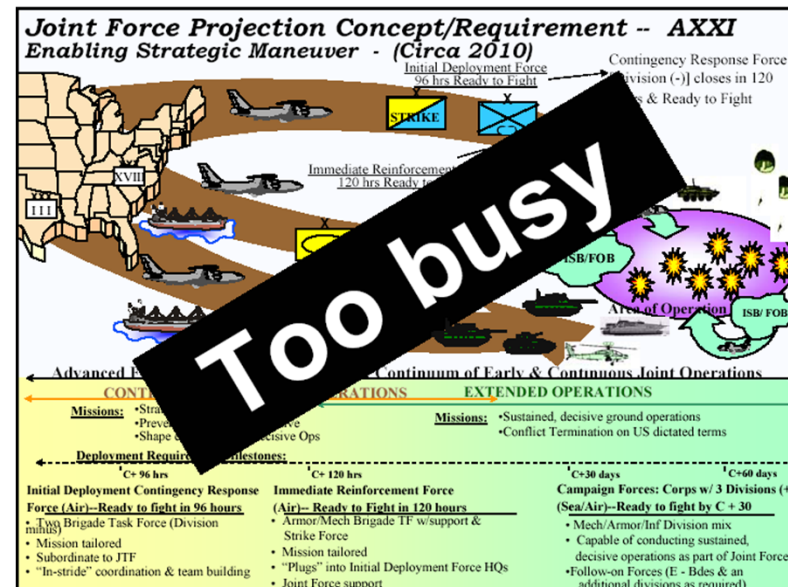
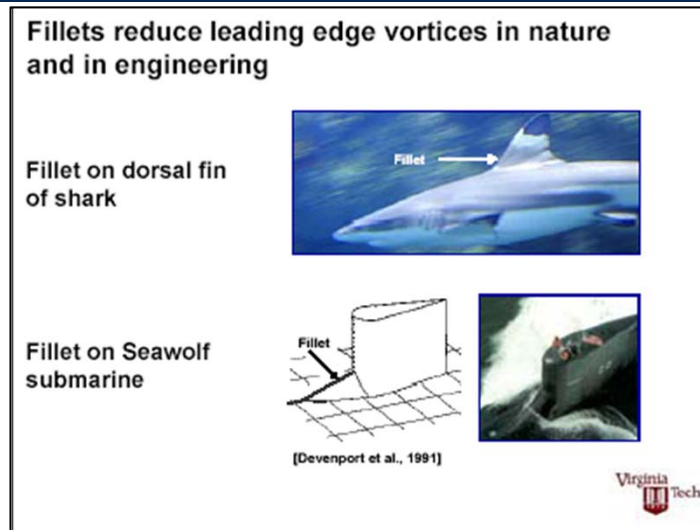
Too many words

Tips for preparing your talk (cont.)

Have only 1 idea per slide: ideally, the header should state that idea, and the body of the slide should support that idea

Use well-labeled graphs and figures to illustrate your key points...this makes the slide more real and interesting to the audience

....or too many distracting images



Tips for preparing your talk (cont.)

To understand the paper or get nice images, 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