

How to Present a Journal Club Talk



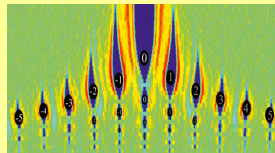
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1

Start with a “title” slide

“The Title of the Paper You’re Presenting”
Complete Bibliographic Citation



Presented by <Names of Team Members>
Department of Physics • University of Illinois Urbana-Champaign
PHYS 496, April 26, 2024

The title slide cues the audience “Get ready to listen”
Include an interesting graphic to grab their attention

2

2

Your talk should answer the following questions:

- 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)

Use this paradigm to organize your presentation

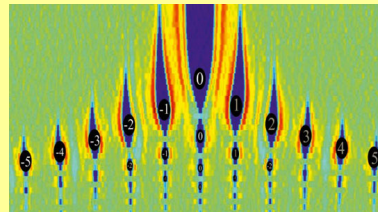
3

3

What about an “outline” slide?

Outline

- Background and Introduction
- Methods
- Results
- Conclusions
- Critique
- Questions



SciTechDaily.com

I think the use of “outline” slides is vastly overrated—
little meaningful content, eminently forgettable (*cme*)

4

If you feel compelled to provide an outline, make it content-rich

Today we'll discuss

Majorana fermions (MFs), theory background

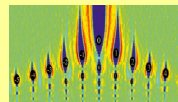
InSb nanowires used as "colliders"

Zero-energy peaks observed; believed to be electrons scattering off MFs

Could be used for solid-state qubits

Critique of paper

Audience questions



5

5

Consider an "outline" graphic at the bottom of each slide to orient listeners

Motivating statement, written as a sentence and left justified

<SLIDE STUFF>

Theory • InSb Nanowires • 0-energy Peaks • MF Observed • Applications • Critique • Q & A

Place a running outline at the margins of the slide (bottom or right margin)

6

6

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Motivating statement, written as a sentence and left justified

<SLIDE STUFF>

Theory • InSb Nanowires • 0-energy Peaks • MF Observed • Applications • Critique • Q & A

Be creative but not distracting

7

7

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Motivating statement, written as a sentence and left justified

<SLIDE STUFF>

Theory • InSb Nanowires • 0-energy Peaks • MF Observed • Applications • Critique • Q & A



8

8

Consider an “outline” graphic at the bottom of each slide to orient listeners

Motivating statement, written as a sentence and left justified

<SLIDE STUFF>

Theory • InSb Nanowires • 0-energy Peaks • **MF Observed** • Applications • Critique • Q & A



9

9

Consider an “outline” graphic at the bottom of each slide to orient listeners

Motivating statement, written as a sentence and left justified

<SLIDE STUFF>

Theory • InSb Nanowires • 0-energy Peaks • MF Observed • **Applications** • Critique • Q & A



10

10

Consider an “outline” graphic at the bottom of each slide to orient listeners

Motivating statement, written as a sentence and left justified

<SLIDE STUFF>

Theory • InSb Nanowires • 0-energy Peaks • MF Observed • Applications • Critique • Q & A



11

11

Consider an “outline” graphic at the bottom of each slide to orient listeners

Motivating statement, written as a sentence and left justified

<SLIDE STUFF>

Theory • InSb Nanowires • 0-energy Peaks • MF Observed • Applications • Critique • Q & A



12

12

Allow about 2 min* per slide

Do the math:

15 min total – 2 min for Q&A = 12 min for “talk”

$$\frac{12\text{-min talk}}{\approx 2 \text{ min/ “content” slide}} = 6\text{--}7 \text{ “content” slides}$$

+ title slide + summary slide = **9 slides max.**

***Allow more time for dense slides, equations, tabular data**

13

13

How do you divide up your 7 “content” slides?

1. Problem/motivation/background—1 slide
2. What is new and why it’s important—1 slide
3. Methods—1 slide
4. Results—1 slide
5. Discussion and conclusions—1 slide
6. **Your critique of the paper**—1 slide
7. Summary slide—1 slide

Note **Item #6**—the difference between a standard science talk and a journal-club talk

14

14

What is different about a JC talk?

Your critique of the paper

Put on your peer-reviewer hat

- Is the work valid?
- Does it represent a significant advance?
- Is it accessible?
- Are the figures well made and meaningful?
- Is the paper well written?
- How much of an impact has the paper had?

15

15

The last slide should be a summary that recaps the main points of your talk

First “observation” of Majorana fermions in semiconductor nanowires

Predicted in 1930s, never before observed

Used InSb nanowires as “nano-colliders”; zero-energy peaks observed

Generated quasiparticles of electrons, possible qubits for topological quantum computers

Didn't actually *observe* Majorana fermions; inferred them from electron scattering



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Put your contact information on the last slide

16

16

Don't use a pointless last slide



17

17

The last slide will get the longest audience exposure—make it count!*

First observation of Majorana fermions in semiconductor nanowires

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***Reiterate your important points and stimulate audience questions**

18

18

To recap...

Discuss all aspects of the paper—background, methods, results, conclusions
Be selective; distill your message to the essentials
Emphasize what is new or different
Present a critique of the paper—discuss strengths and weaknesses; evaluate its likely impact
Provide a title slide and a summary slide
No more than 9 slides
Rehearse and revise (shorten); mind the time

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19

19