

How to Present a Physics Talk

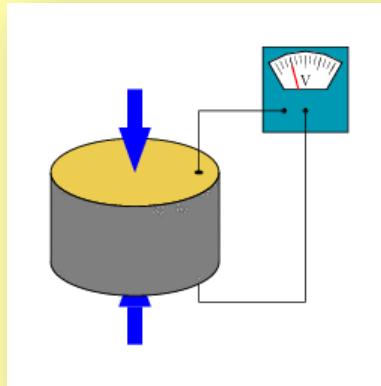


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Start with a “title” slide

“Piezoelectric Sensors”



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give credit for images

provide your names

Presented by <Names of Team Members>

Department of Physics • University of Illinois at Urbana-Champaign

PHYS 398, September 21, 2018

give the venue & date

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

Your PHYS 398DLP talk should address the following points:

- Identify the device
- Explain what it does
- Specify what information it will provide
- Describe how you will use this information
- Explain the underlying physics (principle of operation) of the device
- Discuss any problems you might have in deploying it and how you will mitigate them
- Summarize everything in your final slide



TIP: Use this paradigm to organize your presentation

How many slides should you prepare? (refer to the Elliott equation)

$$S = \frac{t}{2}, \quad [1]$$

number of slides

time allotted for your talk,
in minutes

A good “rule of thumb” is to allow about
2 minutes per slide

Allow more time for equations, complex
plots, complicated figures, tabular data

Allow at least 2 min* per slide

Do the math:

15 min total – 3 min for Q&A = 12 min for “talk”

$$\frac{12 \text{ min talk}}{2 \text{ min/slide}} = 6 \text{ slides max}$$

6 slides – title slide – summary slide = **4 slides**

Tip: You cannot show 44 slides in a 15-min presentation, *no matter how fast you talk

How do you divide up your four slides?

- 1. Identify the device and explain what it does**
- 2. Specify what information it provides and how you will use the information**
- 3. Explain the physics**
- 4. Discuss anticipated problems and how you will mitigate them**

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

To recap...

Piezoelectric sensors will be used to measure pressure

Insensitive to EM fields and radiation

$$C_x = d_{xy} F_y / a$$

Will have to mitigate for vibration



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Put your contact information on the last slide

Don't use a pointless last slide



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

To recap...

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

Use a simple sans serif font

Calibri
Helvetica
Arial

Tahoma
Corbel
Verdana

Serif fonts don't project as well, because the narrow parts tend to fade away

Eschew ~~weird~~ fonts

Use one main font color, one **contrasting font color** for emphasis

Use one main font size, one **contrasting font size** for emphasis

Use mixed upper and lower case for text—**WRITING IN ALL CAPS LOOKS LIKE YOU'RE SHOUTING** (and it's much harder to read—and proofread!)

REJECTED

Choose a neutral background and a high-contrast color for the text

Use a light-colored background with dark text

Use a dark background with light text

This isn't high-enough contrast

Neither is this

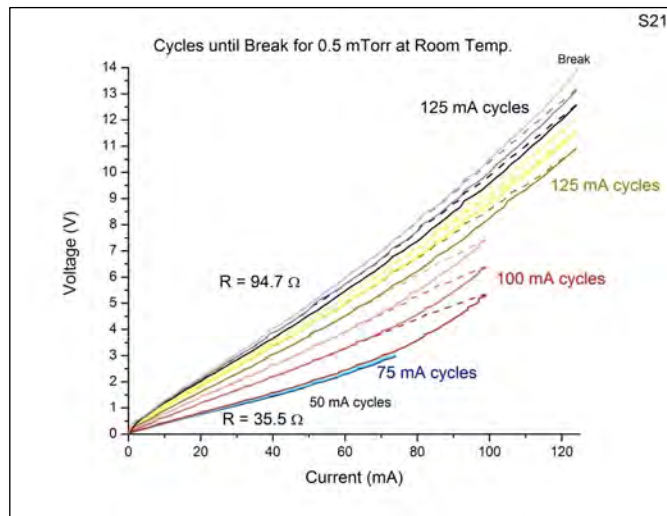
Don't ever put red on blue

Or blue on red

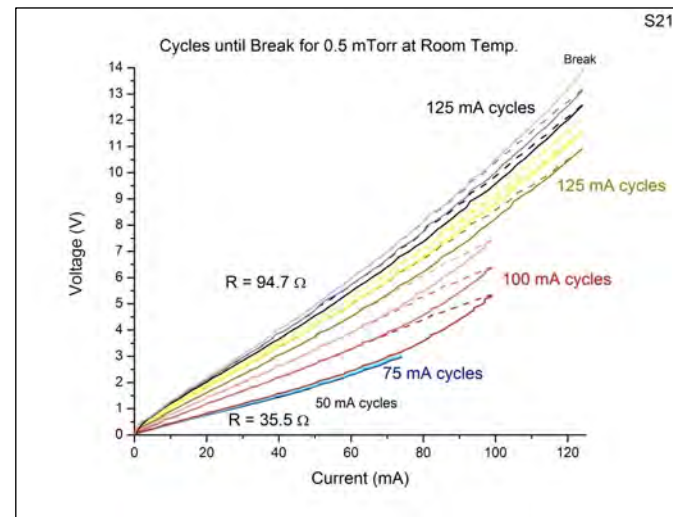
And avoid using gradient fills, too

DO replace the content-less PPT “title” with a meaningful motivating statement

Results



IV curves showed an increase in resistance with Joule heating



Plot courtesy Thomas Hymel

Tip 1: Write the statement as a sentence and left-justify it

Tip 2: Turn off the “auto-correct” feature in PPT that reduces the font size if you exceed the number of characters MS thinks you should have on a line

DO use the SEEE method to present your ideas effectively

State your main point

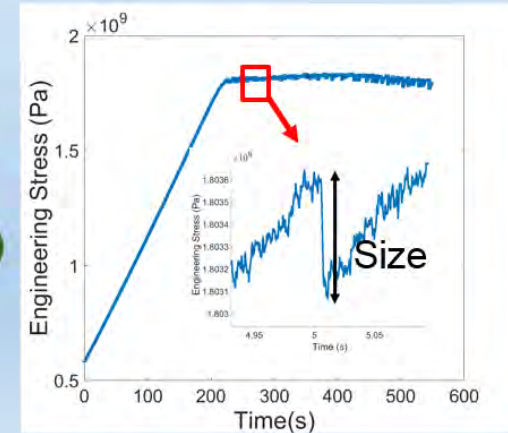
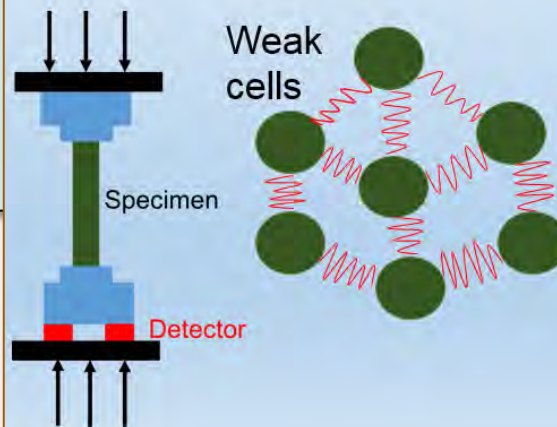
Evidence

Example

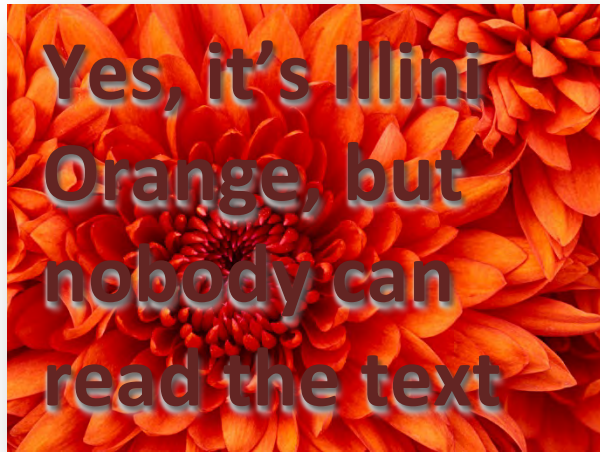
Explanation

What are slip avalanches?

BMG deforms with intermittent slip avalanches
Previous work : Statistics of slip avalanches in BMG can be described using a mean field model
Mean field model: All cells are coupled equally



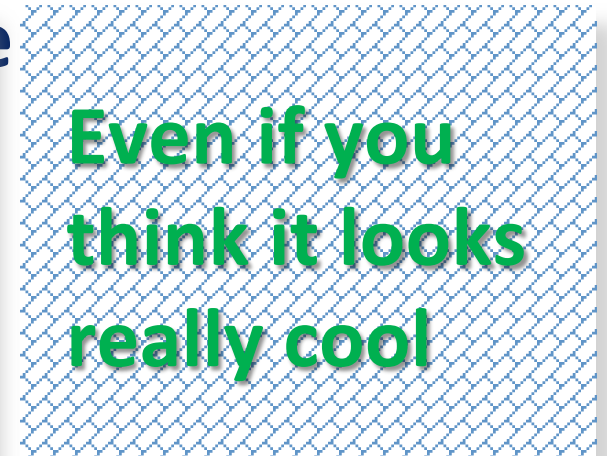
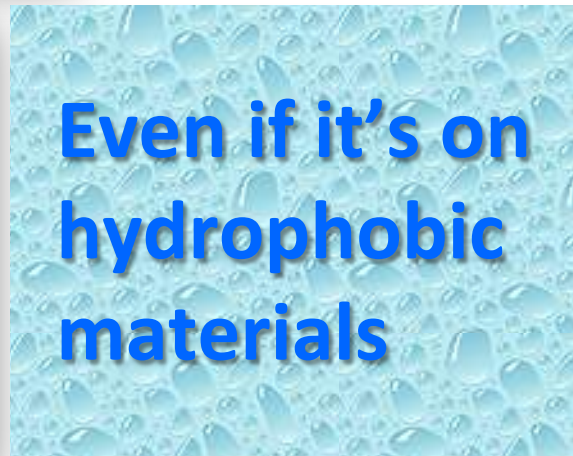
Don't use photographic or "fill" backgrounds



They're distracting

They make your text too hard to read

They get boring after the first



Just don't do it!

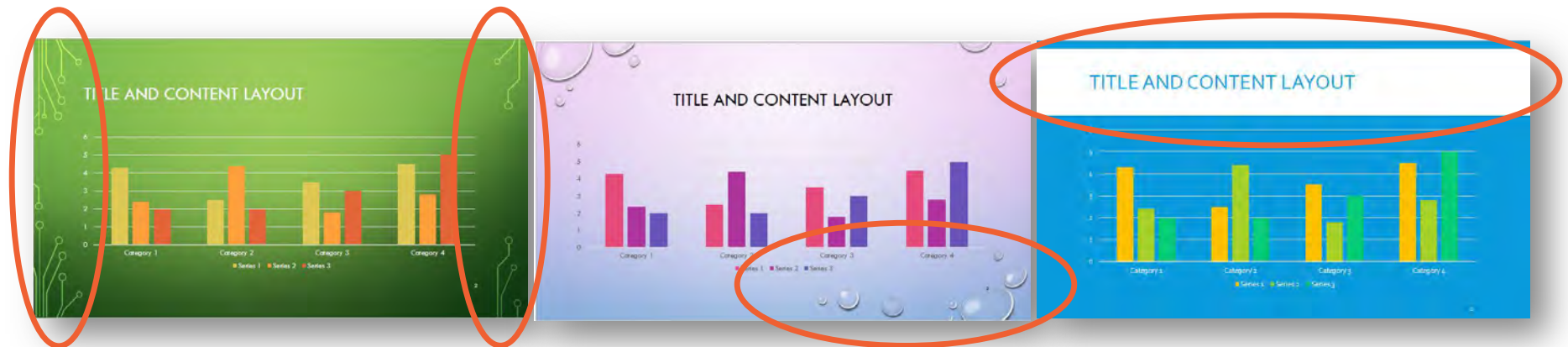
Don't use one of the PPT templates

They take up too much real estate with meaningless graphics

They force you to devote 25% of the slide to the "title"

They trivialize your message by promoting style over substance

Many are just butt-ugly



Turn off the unless you're presenting an actual list

Status of Projects

HEP at ANL

Theory

- Connection with UC through Carlos Wagner (appt) has brought two thesis students to
- New Assistant level theorist (Tim T)
- 7 international workshops org
- ♦ *Broad participation by st*
- Active work on organi
- workshops held e
- Physics high

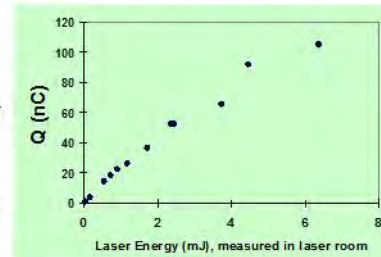
Accelerator P

- Ba... wakefield
- 2-beam configurations,
- major developments of the
- ation of acceleration to 100 MeV in 1m*
- ... required a major upgrade of their facility, especially
- ... electron gun and laser system
- ♦ *High power tests of externally powered dielectric loaded waveguides in collaboration with Naval Research Laboratory*
- 2 new physics processes affecting electron acceleration discovered (and published)



REJECTED

Charge generated from the new gun



Presenting your talk...

KNOW your material (best way to overcome stage fright)

Rehearse!

Say the words out loud

Practice your timing

Okay to write out words ahead of time, but practice until you can speak naturally

Look at the audience—don't turn around and read off the screen

Point out features using a laser pointer, not your finger

To recap...

Six slides—title, four “content” slides, summary

Recap your talk on your summary slide to remind the audience of your main points and stimulate questions

Keep it simple—neutral background, high-contrast text, sans serif font

Use a motivating statement at the top of each slide and turn off the bullets

Rehearse—out loud, in real time—until you can say your part naturally and effortlessly while maintaining eye contact with the audience



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