Tips for Preparing and Giving an Effective Scientific Presentation using PowerPoint

Based on:
• Foundation meeting by Susan McConnell at Stanford University

• Presentation prepared by Microbiology Dept at Colorado State University

• Personal experience
We may not be experts at public speaking, but we are all experts at listening to talks.

- Effective presentation style
- Appropriate background information
- Clear statement of hypothesis
- Clear data and methodology slides with obvious “take home message”
- Effective summary and conclusion
Emk1 knockdown inhibits lumen formation in MDCK cells:

- **RT-PCR**: EMK1 is effectively knocked down in MDCK cells 24 hours after transfection with P-SUPER (control) or P-SUPER-siEMK1 plasmid; knockdown confirmed on the right with antibodies to EMK1.

- **Collagen overlay assay**: cells cultured 24 h on collagen I before being overlaid with additional collagen on the apical surface, analyzed 24 h later. Note the lack of lumen in EMK1-KO cultures.

- **Ca switch**: control or EMK1-KO cells were plated in low Ca medium 24 h upon transfection with pSUPER or pSUPER-KO. After 12 h, cultures were switched to normal medium for 24 h. Transmission EM of cells sectioned perpendicular to the substratum shows lack of microvilli in EMK1-KO cells.
Major errors

Poor choice of font style and size.

Poor choice of colors for background and text.

Too much data!!

Too many lines of text!!

No obvious conclusion.
Powerpoint basics:
1. What font to use

Use a Sans Serif font:

This font is Arial.
This font is Comic Sans.
This font is Papyrus.

Serif fonts take longer to read…

This font is Times New Roman.
This font is Courier.
This font is Didot.
Powerpoint basics:
1. What font to use

Type size should be 18 points or larger:

18 point
20 point
24 point
28 point
36 point

* References can be in 14 point font
Powerpoint basics:
1. What font to use

AVOID USING ALL CAPITAL LETTERS BECAUSE IT'S MUCH HARDER TO READ!
Powerpoint basics:

2. Color

Dark letters against a light background work.

Dark letters against a light background are best for smaller rooms and for teaching.
Light letters against a dark background also work.

Many experts feel that a dark blue or black background works best for talks in a large room.
Powerpoint basics:

2. Color

Avoid red-green combinations because a large fraction of the human population is red-green colorblind.

Lots of people can’t read this - and even if they could, it makes your eyes hurt.
Antidotes for PowerPoint Poisoning

Choose Colors Carefully

Bad
Good
Good
So, So
Bad
Worst

Good
Bad
Good
Worst

Slide backgrounds, font sizes and colors
Powerpoint basics:
3. Layout

Keep the layout and style as consistent as possible.

Every slide should have a heading.

Try to limit text blocks to no more than two lines each.
The reason for limiting text blocks to two lines is that when the text block goes on and on forever, people in the audience are going to have to make a huge effort to read the text, which will preclude them from paying attention to what you are saying. Every time you lose their focus, your presentation suffers!
Powerpoint basics:
3. Layout

It is often effective to “unveil” a list point by point.

Do not overuse animations and do NOT have screeching sounds as text enters!
Powerpoint basics:
3. Layout

Do not cram too much into a slide.

Try your best to include a simple image on every slide.
Emk1 knockdown inhibits lumen formation in MDCK cells:

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MDCK cells form a lumen following a change in extracellular \([\text{Ca}^{++}]\)

MDCK cells

Surface view from lumen

\text{gp135} \hspace{1cm} \beta\text{-catenin} \hspace{1cm} \text{ZO-1}
MDCK cells form a lumen following a change in extracellular \([\text{Ca}^{++}]\)

- Surface view from lumen
- Side view of lumen

- gp135
- \(\beta\)-catenin
- ZO-1
Lumen formation is blocked in EMK1 knockdown cells.
Tips for Preparing and Giving an Effective Scientific Presentation using Powerpoint

Powerpoint presentation:
Font style and size
Color choice for background and text
Keep text blocks short and simple
Do not overuse animations
Keep figures as simple as possible

Do not use too many slides!
Presentation Hints

PowerPoint Presentations

- PowerPoint Poisoning:

Dilbert, August 16, 2000

Try not to use too many slides.
Often, less can be more effective!
There is more to giving a good talk than showing good slides—
Presentation style is very important!

- Do not read your slides
- Do not use too many gimmicks (videos)
- Do not pace up and down but also don’t stand rigid!
- Do not wave your pointer all over the slide
- Do not talk to the screen
- Do not use UMMH or AHHH to fill transitions
There is more to giving a good talk than showing good slides—
Presentation style is very important!

• Do face the audience and make eye contact
• Do show enthusiasm and vary the tone of your voice
• Do practice beforehand
• Do ask your friends for feedback
• Do RELAX and ENJOY your presentation!