Giving a GREAT scientific talk

Office of Intramural
TRAINING&
EDUCATION
build your career, shape the future

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Characteristics of a good talk   Characteristics of a bad talk

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To give a great talk, you have to:

- Know your audience
- Know the rules
- Tell a STORY
- Have crisp, clean data slides
- "Carry" yourself well
- Master the Q&A
- Start early, get feedback, and practice

Tell a story

➢ A talk is NOT a spoken paper

➢ Rewrite experimental history for better telling

➢ Hit the "high points"

➢ Highlight key points with repetition

➢ Use intonation, body language, and gestures to embellish, but not distract

Strategies for telling your story

➢ The mystery thriller approach

Benefits: can build excitement

Risks: If attentions wander, it can be difficult to come back

➢ The sneak preview approach

Benefits: key findings introduced when the audience is fresh and can be reiterated multiple times

Risks: Audience says "I got it" and stops listening

The beginning is the "hook"

➢ You have 2 minutes to grab attention and commitment from listeners

➢ Paints the "big picture"

➢ Addresses two questions

Why do we care?

What do we know already?

➢ Pictures are better than words

Polarized sorting in epithelial cells

• **Epithelial cells are highly polarized with apical, basal and lateral membranes. Tight junctions form a barrier between the apical and basolateral surface.**

• **Some proteins are targeted directly to one plasma membrane surface, while some are targeted to the apical membrane following transcytosis from the basolateral surface.**

• **We still do not understand the molecular mechanisms that underlie the polarized sorting of proteins in epithelial cells.**
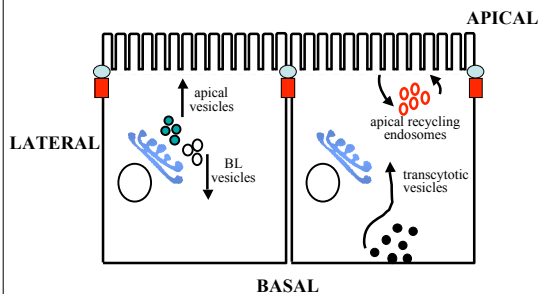

Polarized sorting in epithelial cells

The middle is the "meat"

➢ Addresses two key questions:

What is exciting about my work?

What is unique about my model system and approach?

➢ Use to show how critical and thoughtful you are

➢ No need to show ALL your data

The ending looks ahead

➢ A chance to hammer home what you learned

➢ A chance to discuss what's next

➢ Make sure it is clear when you are finished talking

Data slides

➢ Should always have a title

➢ Put your best foot forward

➢ Less is more

➢ Simple is better

➢ Beware of copy-paste from the web or another file
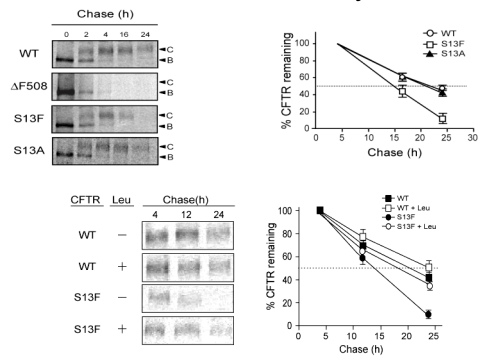
➢ Watch ratio of words to data

Pulse-chase analysis

S13F CFTR has a reduced half-life

Chase (h)

WT   ΔF508   S13F   S13A

C / B

% CFTR remaining vs Chase (h)

- WT
- S13F
- S13A
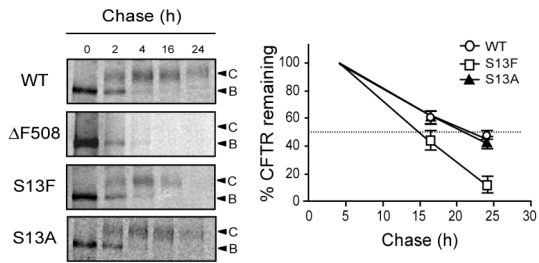
Lysosomal protease inhibitors rescue S13F degradation

CFTR	Leu	Chase(h)
WT	−	4 12 24
WT	+	
S13F	−	
S13F	+	

% CFTR remaining vs Chase (h)

- WT
- WT + Leu
- S13F
- S13F + Leu
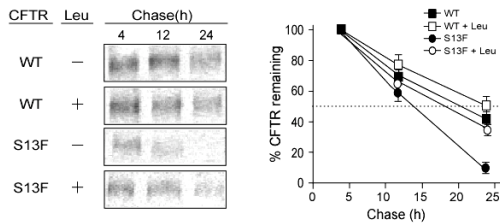
Colors & Backgrounds

- It is easy to over-do it
- Keep the audience focused on your data, not your slide
- Project your talk in advance
- Some people in the audience will be red-green colorblind
- Avoid pastels

Colors & Backgrounds

➢ Too much can be a distraction

➢ Avoid anything but a simple background

➢ Project your talk in advance

➢ Remember that some people in the audience will be red-green colorblind

➢ Use primary bold colors, not pastels

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Listener-friendly slides

➢ **Titles: 32 - 40pt bold**

➢ Major points: 24 - 32 point

➢ Labels on graphs: never less than 18 point, but 24 is better

➢ Lines: 3 point or thicker ━━━

➢ AVOID USING ALL CAPS

➢ Use **bolded** text rather than *italics* or underline for emphasis

All slides should have titles

➢ Helps you and the listener refocus if necessary

➢ Avoid using titles to set up surprise or mystery

➢ A declarative sentence that states the point directly is often most effective

Animation & movies

➢ Over-animation can make a talk awkward

➢ Elaborate transitions are distracting

➢ If you have critical movies, bring your own computer or let your host know in advance

➢ Avoid making a scene if your movie won't play

Be engaging and personable

➢ First impressions are based on your dress, body language, and movements

➢ Use your introductory remarks to "connect"

➢ Never read your talk

➢ Step away from the podium if possible

➢ Never turn your back to the audience

➢ Make eye contact throughout the audience

➢ Genuinely welcome questions

Humor

➢ Is often used to hide nervousness

➢ Can easily backfire & offend

➢ Can add a lot if used well AND if it reflects who you are

Time management issues

➢ Don't run over

➢ Talking fast or skipping slides is not a strategy

➢ In general:

    5 - 7 slides for 10 minutes

    10 - 12 slides for 20 minutes

    25 - 30 slides for 50 minutes

➢ Add "guideposts"

➢ PRACTICE, PRACTICE, PRACTICE

Answering questions is an art-form

➢ Make sure you understand what is being asked

➢ Repeat the question

➢ Avoid long digressions

➢ Don't take the "bait"

➢ Not all questions are "great"

➢ OK to say "I don't know", but follow-up may be important

Final thoughts

➢ A talk is NOT a spoken paper
➢ Most people include far, far, far too much material and too much detail
➢ Good slides can't replace bad data, but bad slides often hide good data
➢ Use repetition, tone and body language to highlight key conclusions
➢ A brief transition slide helps an audience remember key points in a long talk
➢ Time to prepare slides and time to practice the talk are key

Exercise

Objective: Take the following slide and make it better.

One approach to defining protein networks

PDZ proteins

C-tail of CFTR

Lung

− +
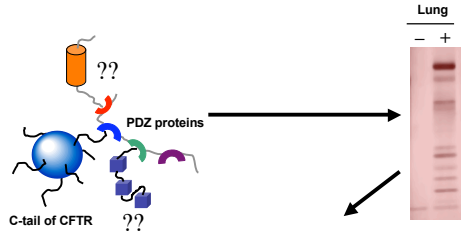
- identify interactors using MALDI
- validate in cells
- functional assays