



How to prepare a scientific talk

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You have to give a talk:

- ▶ scientific (seminar, conference, retreat)
- ▶ interview (e.g., for a job)
- ▶ other (teaching, administrative meeting, lunch / dinner)

- ▶ In all cases, do it well!

Why Should I Give a Good Talk?

- ▶ To do justice to your topic
- ▶ To not waste the brain cycles of your audience
- ▶ People who give good talks often get the good jobs and more recognition

Before the Talk: What to Say

- ▶ Assumption: You have a message. What is it?
 - ▶ Note: Having a paper to present is not necessarily the same as having a message!
- ▶ Having identified your message, ask yourself:
- ▶ Can I explain it clearly?
- ▶ If so, how? What is my punch line?
- ▶ Most importantly: What do I want the audience to take home from the talk?
- ▶ Important note: It is easier to state what features of a lecture the audience will always remember, and the answer is not pretty

My Message in a Nutshell; Four Requirements of a Good Lecture/Talk

- ▶ Every lecture should make only one main point
- ▶ Audience = heard of cows
- ▶ Never run overtime
- ▶ Fifty minutes = one microcentury
- ▶ Relate to your audience
- ▶ Everyone in the audience has come to listen to your lecture with the secret hope of hearing their work mentioned
- ▶ Give them something to take home

Roadmap of this Talk

- ▶ Generalities
- ▶ Specifics for different type of talks
- ▶ Slides and their (mis)use
- ▶ What can go wrong during a talk
- ▶ Handling questions or their lack
- ▶ Conclusion

Before the Talk

- ▶ Try to immerse yourself in what you are going to say (e.g. by giving the talk to yourself)
- ▶ Right before the talk:
- ▶ Do: Be comfortably dressed; breathe deeply
- ▶ Don't: Drink carbonated beverage!

During the Talk

- ▶ Straighten up
- ▶ Face your audience
- ▶ Smile, Express that you are happy to be here
- ▶ Dare to speak slowly and loudly
- ▶ Speak for the others (not for yourself)
- ▶ Accept that in the end, by giving a talk, you express who you are

Conducting the Talk: The Ending

- ▶ Announce the ending (e.g., with a slide entitled “Conclusion”)
- ▶ Summarize the background (and thus the significance of your work)
- ▶ Summarize the achievements
- ▶ Open perspectives (future work)
- ▶ Thank the audience!

Specifics: Giving a Very Short Talk

- ▶ Setting: Very limited time (less than 10 minutes)
- ▶ You must have a **very clear** message (Keyword: Elevator statement)
- ▶ You want your audience to take home that message
- ▶ Less is more! Eschew all technicalities

Specifics: Giving a Conference Talk

- ▶ Setting: Short and limited time (20-25 minutes)
- ▶ You want people to read your paper
- ▶ You want those who have read your paper already to appreciate one specific thing
- ▶ If your paper has several points you can make only one of them (The anguish of having to choose. . .)

Specifics: Giving a Seminar

- ▶ Setting: Limited, but longer time (45-60 minutes)
- ▶ Recommendations:
 - ▶ Be well-prepared
 - ▶ Be very clear about your goals
 - ▶ Don't hesitate to defend your positions, but don't look irritated
- ▶ You are in control!

How to Deliver the Talk

- ▶ Stream of consciousness with no support whatsoever
 - ▶ Leave it to actors and opera singers
- ▶ Read from a script
 - ▶ Do it only for very formal occasions
- ▶ Use a black- or white-board
 - ▶ common in mathematics
- ▶ Use slides
 - ▶ the done thing in computer science
- ▶ Mantra: The message is more important than the medium or the messenger

What's the Point of a Slide?

- ▶ The slide is not an end in itself
- ▶ The equality
- ▶ $\text{Good slides} = \text{Good talk}$
- ▶ is not always valid
- ▶ The slide supports and guides your talk
- ▶ Try to cooperate with your slides

A Suggestion: The Comic Strip

- ▶ Assemble your slides in a hand-drawn comic strip:
- ▶ It gives you an overview of your talk (in one or two pages)
- ▶ You can't write too much on each slide!
- ▶ Question: How many slides per minute?

Basic Macroscopic Techniques

- ▶ Have simple and informative slides
- ▶ Have a very clear overall plan
- ▶ Use a roadmap (sign posting for the cows)
- ▶ Except for the plan, avoid forward references

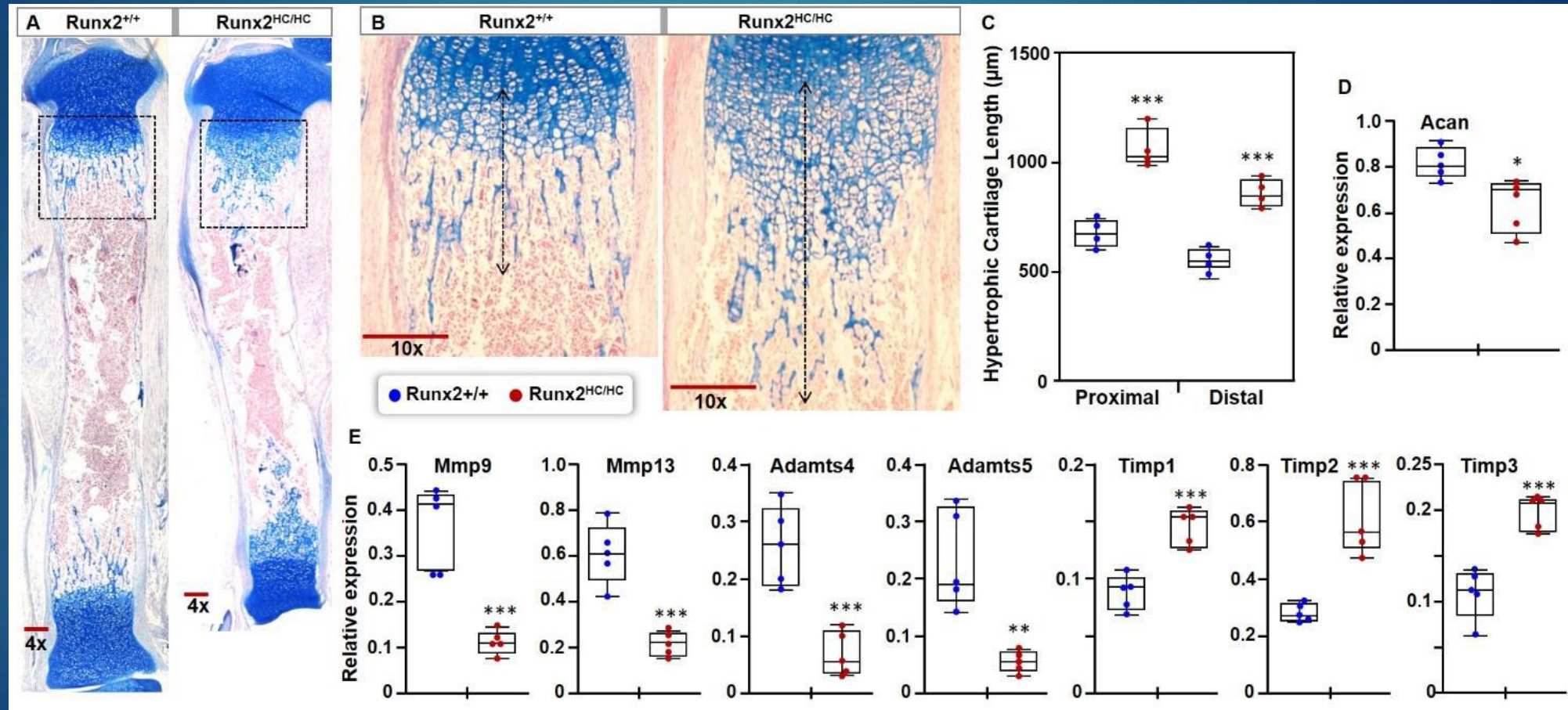
Writing the Slides

- ▶ By hand (if your handwriting is readable)
- ▶ By machine
- ▶ Active slides (with a laptop)
- ▶ Content: the slides can be adapted up to the very last minute
[Good or bad?]
- ▶ Form: do not overdo anything

Standard Mistakes

- ▶ Small fonts or handwriting
- ▶ Invisible colour
- ▶ Meaning attached to colours (colour blindness is less uncommon than you think, Watch your Powerpoint backgrounds!)
- ▶ Long and complete sentences
- ▶ Overcrowded slides
- ▶ Unreadable slides (abysmal handwriting, bleeding ink, scratches, dust, fingerprints. . .)
- ▶ Slides written at the last moment

Typical format of a figure



Handling Your Slides: Basic Techniques

- ▶ Don't talk while putting on a new slide
 - ▶ Information overflow
- ▶ Hide as little of the screen as possible
 - ▶ in particular, when pointing at things
- ▶ Question: How does one point at things?
- ▶ Have several plan slides and annotate them in advance
 - ▶ To keep your audience and you on track

Try to Avoid

- ▶ Correcting slides on the fly
- ▶ Making self-comments
- ▶ Putting your hand on your mouth while speaking, even if it feels so good
- ▶ Hum, ah, er, mmmmmhh, etc.

What Can Go Wrong

- ▶ Plan:

- ▶ Interruptions
- ▶ Running out of slides
- ▶ Running out of time

Interruptions at a Conference

- ▶ You can:
 - ▶ answer on the spot (but don't get carried away)
 - ▶ say “good point; just wait two slides”
 - ▶ say “good point; I'll come back to it at the end of the talk”
 - ▶ (sledgehammer) use a secret slide

Minor Interruption

- ▶ What to do:
 - ▶ Don't panic!
 - ▶ Straighten out and carry on
 - ▶ Take a simple example and make your point
- ▶ You have time

Major Interruption

- ▶ What to do depends on the nature of the interruption:
 - ▶ about your assumptions
 - ▶ about your point

About your Point

- ▶ E.g., already done by someone else:
 - ▶ if most of the audience is non-specialist
 - ▶ situate the nature of the interruption
 - ▶ delay the discussion until after the talk
 - ▶ if most of the audience is knowledgeable
 - ▶ make your point clearly
 - ▶ discuss it out

Running out of Slides

- ▶ Not a disaster. Short talks are appreciated!
- ▶ What to do:
 - ▶ conclude unhurriedly, and summarize the main point of the talk (don't repeat the talk though)
 - ▶ say “thank you; are there any questions?”
- ▶ Don't make a personal comment (“hum, I am running out of time/slides again!” or some such; it looks bad)

Running out of Time

- ▶ To be avoided at all costs, but if it happens:
 - ▶ Do not skip through fifty of your slides looking for the right one to put on next!
 - ▶ Conclude by making your main point
 - ▶ Thank the audience
 - ▶ Above all, do not assume that you can carry on as if nothing had happened!

Right After the Talk

- ▶ Plan:

- ▶ Handling questions
- ▶ And if there are no questions?

Example Question 1

- ▶ Question: Wouldn't it have been simpler to do this instead of that?
- ▶ Answer, version 1: The question is “Wouldn't it have been simpler to do this instead of that?” That's a very good point. No. I tried, and it's actually simpler to do that.
- ▶ Answer, version 2: The question is “Wouldn't it have been simpler to do this instead of that?” That's a very good point. Perhaps. It's worth a look.

Example Question II

- ▶ Question: Isn't your main theorem a corollary of Pythagoras's theorem?
- ▶ Answer: The question is "Isn't your main theorem a corollary of Pythagoras's theorem?". Good question. Which theorem do you have in mind?

Example Question III

- ▶ Question: Blah blah. Blah blah blah blah blah blah blah. Blah blah. Blah blah blah blah blah blah blah blah?
- ▶ Answer: The question I believe is “Blah blah?”.
- ▶ . . . (and then for an appropriate answer). . .

Example Question IV

- ▶ Question: More than a question, I want to make a comment. Blah blah. Blah blah blah blah blah blah.
- ▶ Answer: Thank you very much.

If There are no Questions

- ▶ Be patient, but do not wait forever - the sound of scientific silence is embarrassing
- ▶ Thank the audience once again, and let people go back to their business
- ▶ Talk shop with whoever stays on

Why Giving a Good Talk?

Conclusion

- ▶ Your reputation does not only depend on your work, but also on
 - ▶ **what you say,**
 - ▶ **how you say it, and**
 - ▶ **whom you say it to**
- ▶ Advice: Cultivate the social side of science. Make yourselves seen and heard, but do not overdo it!

Conclusion

- ▶ These are just general guidelines: suit them to your needs
- ▶ Do what I said, not what I did here:
 - ▶ **plan your talk in a top-down style**
 - ▶ **make only one main point**
 - ▶ **practice your talks carefully**
 - ▶ **never run overtime**
 - ▶ **relate to your audience**
 - ▶ **give them something to take home**
- ▶ The advice we give others is the advice that we ourselves need