

Chapter G:I

I. Scientific Toolbox

- ❑ Literature Research
- ❑ Oral Presentations
- ❑ Scientific Writing

Oral Presentations

Content of a talk

- ❑ Scientific presentation is storytelling
 - Tell a coherent story with a central theme
 - Plan what points to make and how to get there
 - Make it exciting, show importance
 - Don't be complete, be selective
- Avoid surprise: Clarify why you tell something

Holds for talks; different in writing

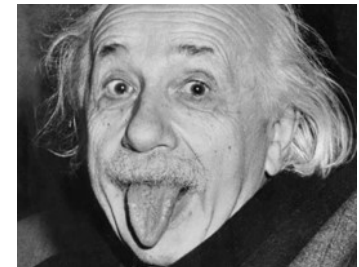
- ❑ Science needs to be understood
 - Adjust complexity to audience
 - Leave out formal things, unless really needed
- Be precise and clear
- Introduce terms, use them consistently
- Figures and examples help

Holds for talks; probably different in writing

“Sometimes **reality**
is too complex.
Stories give it a form.”



Jean-Luc Godard



“Everything should be
as **simple** as possible,
but **not simpler**.”

Oral Presentations

Figures

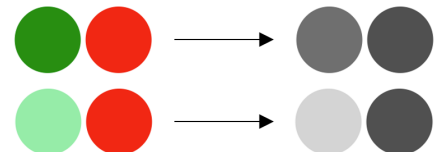
- ❑ Charts, diagrams, graphs, pictures, drawings, . . .
- ❑ Slides are visual
 - Rule of thumb: No slide without a figure
- ❑ What to use figures for
 - Primary. Replace text, visually explain concepts
 - Secondary. Support your message with pictures (as often done in this presentation)
- ❑ Formatting
 - Vector graphics whenever possible
 - Others: Optimize sharpness, scale down smartly
 - Don't scale > 100%; 50% is better than 53% – why?
 - Instead of squeezing or stretching the aspect ratio try to cut figures on any side
 - Think of color-blind people – contrast helps
 - Check readability of included text

“A **picture** is worth
a **1000 words**.”



“**Unsharpness**
is the mistake that even
lay persons see.”

Herbert Kania



Oral Presentations

Presentation and slide structure

- Overall structure of a presentation
 - Title slide. Title, authors, maybe date
 - Outline slide. Only for longer talks of \gg 30 minutes
 - Content slides. Your story
 - Conclusion slide. Take aways, future work
But no separate “Thank you”-slide!
 - Maybe references. But only shown when asked for
- Structure of content slides
 - Header. Clear unique title
Remark: Titles often not read by the audience.
 - Body. Bullet points, figures, tables, etc.
 - Footer. Title, presenter, page number, maybe “progress”
- Space for separation
 - Leave space between different slide parts
 - Leave some space to slide borders
Sometimes clipped + it is getting harder and harder

Oral Presentations

Style of slides

□ General slide style

- Decide what to put on a slide and what to say

- Vary slides to maintain attention

Larger figures here, some more text there . . .

- Animations only when useful; use consistently

Avoid playful ones, unless they really match your message.

- Clarify what is from you and what from others

Cite others' work as you do in writing (comes later).

□ Text style

- Avoid grammar and spelling errors

- No full sentences, rather key phrases

- AUA

Avoid unnecessary acronyms

□ Amount of text

- Some say 7x7 maximum 7 bullet points per slide, 7 words per point

- Others say 3x3 3 top-level points with 3 sub-points

Grammar.

The difference between
knowing your shit and
knowing you're shit.



Oral Presentations

Fonts

- ❑ Sans-serif fonts (Helvetica, Arial, ...) much more readable on slides
- ❑ Serif fonts (Times, Garamond, ...) maybe for example texts

- ❑ Font size – Do not mix too many on one slide
 - This text is 26pt – Maybe for titles
 - This text is 24pt
 - This text is 21pt
 - This text is 18pt – About minimum for text that should be read
 - This text is 15pt
 - This text is 12pt – Minimum for extra information that may be skipped
 - This text is 10pt
 - This text is 8pt
 - This text is 6pt – maybe for text that should not be readable ;-)

- ❑ Font shapes and colors
 - Use italics, boldface, monospace, and colors consistently
 - **And do not mix too many on a slide**

Oral Presentations

Talking and timing

- Giving a talk
 - Match words on slides, but complement them
 - No pre-phrased sentences
 - Look at the audience, speak to everybody
 - Don't be too formal, but be serious, avoid slang

Jokes may be nice if you know how to use them.

- Timing
 - Use your time, but stick with given time limit
 - Expect 1.5–2 minutes per (animated) content slide
 - Rule of thumb: Audience can read slide twice
 - Leave time for questions and discussion at the end
- Practice your complete talk . . . and practice again
 - How much time do you need?
 - Do your story and slide transitions work?
 - Look for honest feedback

