

Chapter G:VI

VI. Scientific Toolbox

- ☐ Literature Research
- ☐ Oral Presentations
- ☐ Scientific Writing

Oral Presentations

Content of a talk

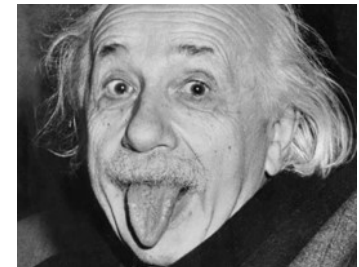
- ❑ Scientific presentation is storytelling
 - Tell a coherent story with a central theme
 - Plan what points to make and how to get there
 - Make it exciting, show importance
 - Don't be complete, be selective
 - Holds for talks; different in writing
 - Avoid surprise: Clarify why you tell something

- ❑ Science needs to be understood
 - Adjust complexity to audience
 - Leave out formal things, unless really needed
 - Holds for talks; probably different in writing
 - Be precise and clear
 - Introduce terms, use them consistently
 - Figures and examples help

“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

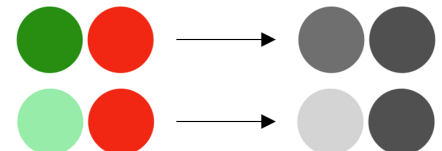
- Vector graphics whenever possible
- Others: Optimize sharpness, scale down smartly
Don't scale > 100%; 50% is better than 53% – why?
- Instead of squeezing or stretching the aspect ratio try to cut figures on any side
- Think of color-blind people – contrast helps
- Check readability of included text

“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

