How to make a good presentation

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With Every Presentation...

you present yourself and your work!
Outline

- Slides: Content and Layout
- Presentation
Outline

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- Presentation
The Slides

- Typically done long before the presentation
  → Rule of thumb: At most one slide per minute

- Used to help convey your message

- Images, Videos, Graphs, Animations etc.

- Not meant to act as a teleprompter
  → Do not read from the slides
Structure of Scientific Presentations

- Introduction and Motivation
- State of the Art
- Approach
- Results
- Conclusion & Future Work

- Brief Outline slide
  → helps the viewer understand your structure
The Sections
Introduction and Motivation

- Describe
  - The problem
  - Why it is relevant?
  - Open question
  - How the proposed approach solves this question

Why should people care about your work?
State of the Art

- Mention relevant approaches presented in the past
- How does your approach go beyond the previous ones?
- Find right balance between praise and criticism
  - Mention what other approaches do and what they solve (be friendly, make the authors happy!)
  - Point out their drawbacks without diminishing their worth
  - Specify in which way your approach is better (do not downplay the work of others!)
The Approach

- Intention
  - Not to demonstrate your skills
  - To make the audience understand how your approach works
- Provide the technical details and the intuition
- Use graphics and examples to explain technical details
Algorithms are Hard to Explain

Algorithm 1 Coverage(S)

1: $C \leftarrow S$ // Set the current node to $S$
2: $P_{aux} \leftarrow C$
3: $P \leftarrow \emptyset$
4: while 1
5:  \hspace{1em} $\forall n \in P_{aux}$, $m \in \mathcal{N}$, $\|c_n - c_m\| < M_R \cdot e_{cell}$
6:  \hspace{1em} $\text{visited}(m) = 1$
7:  \hspace{1em} $\forall n \in P_{aux}$, $m \in \mathcal{N}$, $\|c_n - c_m\| < 2M_R \cdot e_{cell}$
8:  \hspace{1em} $\text{overlapped}(m) = 1$
9:  \hspace{1em} $\mathcal{N}_C \leftarrow \{n \in \mathcal{N} \mid \|c_n - c_C\|_{\infty} = (2M_R + 1) \cdot e_{cell}$
10:  \hspace{1em} and $\text{overlapped}(n) = 0$ and $g(n) < \infty\}$
11: if $\mathcal{N}_C \neq \emptyset$
12:  \hspace{1em} find $M \in \mathcal{N}_C$ with minimal $g$
13: else
14:  \hspace{1em} $D^*(C)$ and stop at $\text{visited}(M) = 0$
15:  \hspace{1em} or $\|c_M - c_o\|_{\infty} = e_{cell}$, $o \in \mathcal{O}$ and $\exists n,$
16:  \hspace{1em} $\text{visited}(n) = 0$, $\|c_M - c_n\| < M_R \cdot e_{cell}$
17: if no such node $M$ exists
18:  \hspace{1em} return $P$
19: end
20: $P_{aux} \leftarrow P_{aux}(C, M)$
21: $C \leftarrow M$ // Set the new current node
22: $P \leftarrow P \cup P_{aux}$
23: end

[Dakulovic et al., IFAC 2011]
Instead...

- Introduce the idea
- Give examples to describe how it works
- Design examples to explain important features of the algorithm

- What should audience takeaway?
  - Intuition behind your algorithm
  - General idea of how it works
The Results

- Should **back up your claims**
- **Demonstrate** that your approach has the desired **features**
- Illustrate that your approach is **better than previous ones**
Conclusions and Future Work

- **Describe the contribution** of this paper
- A good first sentence: “We presented a novel approach to …”
- Highlight the **key idea of the work**
- Talk about limitations and how they can be addressed in future work
Slide Design

- Use the provided template for your presentations
- Footer space
Bullet Points

- Only use a bullet point when you have multiple things to list
- Line distance between bullet points
- Manage headline vs. content space
- Use sans-serif fonts instead of serif fonts
- Use
  - dark text on light background (easy to read)
  - light text on dark background (not so easy to read)

Left aligned text is easier to read…
  Than centered text

- Avoid clutter / too much text
- Adjust font size based type of presentation (Zoom / in-person)
Text Color

- Check readability
- Check readability
- Check readability
- Red and green are hard to distinguish for a large fraction of the population
- Check readability, maybe ask others!
Text Size

- Make sure that everyone can read the text (32Pt)
- Make sure that everyone can read the text (30 Pt)
- Make sure that everyone can read the text (26 Pt)
- Make sure that everyone can read the text (21 Pt)
- Make sure that everyone can read the text (18 Pt)
- Make sure that everyone can read the text (14 Pt)
- Make sure that everyone can read the text (10 Pt)

- The caption should not be smaller than text on the slide
Abbreviations

- Abbreviations reduce the length of the text
- Abbreviations → Use them sparingly!
  - Make you appear like an insider
  - While others feel like outsiders
- Abbreviations reduce the length of the text
- Avoid abbreviations (unless they are common)
- DIY, ASAP, UK, USA → Common abbreviations
  - PQ, SQ, RQ → Uncommon abbreviations
Figure with 2 Problems
Check resolution and aspect ratio!
Figures

- Prefer vector graphics over images
- Grab an image from a paper at the highest resolution
- Zoom into the picture before grabbing it
- If the image is pixelated, redraw the figure!
- To check, connect your computer to an LCD monitor and check the quality by going close to the screen
Example of a Bad Plot
Example of a Good Plot
Plots

- Use colours and patterns that are easy to distinguish
- Order the legend according to the functions
- Make them high resolution
- Create your own plot if needed
Tables

- Horizontal lines are good, vertical lines no
- Use bold/underlined value highlighting
- Rather use figures instead of tables
Animations

- Useful to explain content and illustrate processes
- Not meant to entertain the audience
- Often animations are distracting → only with purpose
- No need to demonstrate that you know every feature of the presentation tool!
Spell Checking

- Your computer can “spell-check” for you - Use it!
- Set the slide language to the language you are using

Benutzen Sie die Rechtschreibprüfung!
Benutzen Sie die Rechtschreibprüfung!
Consistent Colours & Shapes

- Think about the colours and shapes you intend to use
- Cross-slide consistency
  If velocity is green in one plot, ensure it is green in other plots, too
Outline

- Slides: Content and Layout
- Presentation
Speaking

- **Speak up** to make sure that everyone can hear you
- Avoid dialect
- Avoid idioms
- Avoid repetitions (look for alternatives or synonyms if you discover it)
- Avoid hesitation vowels like “ahem”, “uh”, “well”, “yes”
The Presentation Mode

- Allows you to view notes for each slide
- Lets you check where you should be according to the timing
- Lets you make a proper transition to the next slide
Laser Pointer

- Helps you to **point at things**
- Use the laser pointer instead of the mouse cursor
  - Clearly visible and hard to miss
  - Laser pointer visible from the presentation mode as well
- Not everything needs to be pointed at
Time Limits

- Test the duration of your presentation beforehand
- Keep a timer running
- If you tend to stumble on phrasing: Slide notes can serve as a crutch
Other Important Aspects to Consider

- Check your camera and positioning beforehand
  - Be in the centre of the image
  - Make sure you’re well lit, and do not sit against the light
- Be aware of your background
- Check whether videos run smoothly on the conferencing software
- Be familiar with the software: How to share the (correct) screen, enter presentation mode etc.
Your Presentation

- Plan it
- Practice it (multiple times)
- Time it
- Think about how to deal with interrupting questions
- Practice transitions between slides
- Keep in mind: This is your show. Optimise it!
- Think positive!
- Questions are good and show that people are interested
- Repeat the question to ensure that you understood it properly
- If you cannot answer a question, be honest about it
- Suggest to take the discussion offline, if the answer would take too long or diverges from the talk
A talk is a unique opportunity to present yourself
- Prepare it carefully
- Practice it extensively
- There is no reason to be late with your presentation
- There is no reason not to be prepared