universität freiburg

How to make a good presentation

Julia Hindel

Robot Learning Lab

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With Every Presentation...

you present yourself and your work!

Outline

- Slides: Content and Layout
- Presentation

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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)

$C \leftarrow S$ *//Set the current node to S*
$\mathcal{P}_{aux} \leftarrow C$
$\mathcal{P} \leftarrow \emptyset$
while 1
  $\forall n \in \mathcal{P}_{aux},\ m \in \mathcal{N},\ \|c_n - c_m\| < M_{\mathrm{R}} \cdot e_{\mathrm{cell}}$
    $\mathbf{visited}(m) = 1$
  $\forall n \in \mathcal{P}_{aux},\ m \in \mathcal{N},\ \|c_n - c_m\| |< 2M_{\mathrm{R}} \cdot e_{\mathrm{cell}}$
    $\mathbf{overlapped}(m) = 1$
  $\mathcal{N}_C \leftarrow \{n \in \mathcal{N} \mid \|c_n - c_C\|_\infty = (2M_{\mathrm{R}} + 1) \cdot e_{\mathrm{cell}}$
    and $\mathbf{overlapped}(n) = 0$ and $g(n) < \infty\}$
  if $\mathcal{N}_C \neq \emptyset$
    find $M \in \mathcal{N}_C$ with minimal g
  else
    D*'(C) and stop at $\mathbf{visited}(M) = 0$
      or $\|c_M - c_o\|_\infty = e_{\mathrm{cell}},\ o \in \mathcal{O}$ and $\exists n$,
      $\mathbf{visited}(n) = 0, \|c_M - c_n\| < M_{\mathrm{R}} \cdot e_{\mathrm{cell}}$
    if no such node M exists
      return $\mathcal{P}$
    end
  end
  $\mathcal{P}_{aux} \leftarrow \mathcal{P}_{aux}(C, M)$
  $C \leftarrow M$ *//Set the new current node*
  $\mathcal{P} \leftarrow \mathcal{P} \cup \mathcal{P}_{aux}$
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

Text

- 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
- Check readability
- Red and green are hard to distinguish for a large fraction of the population

- Check readability, maybe ask others!

Text Size

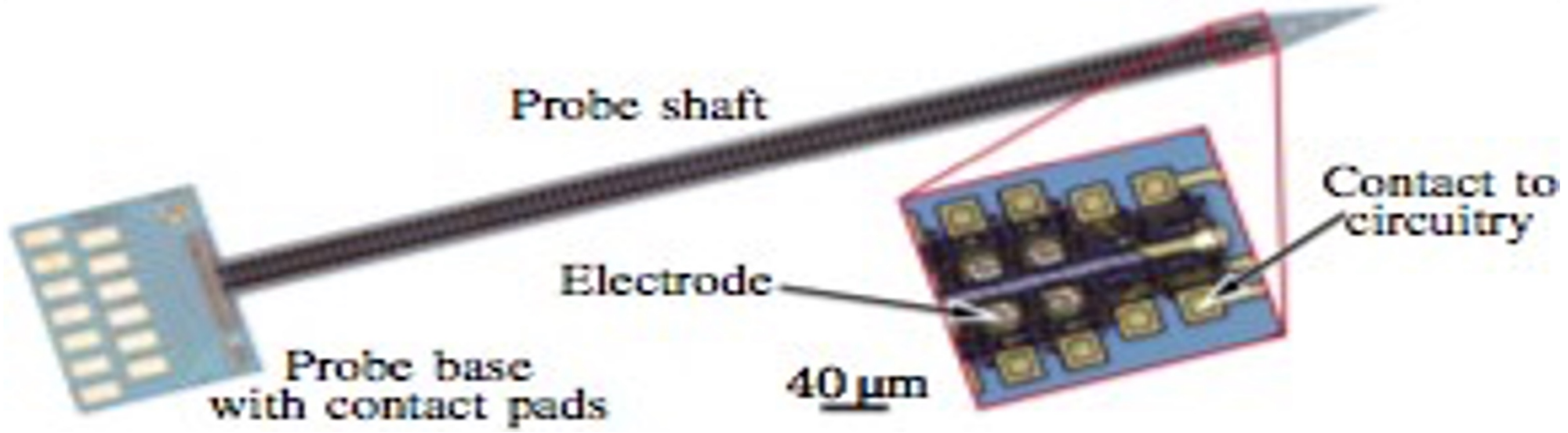
- Make sure that everyone can read the text (32Pt)
- Make sure that everyone can read the text (30 Pt)
- Make sure that everyone can read the text (26 Pt)
- Make sure that everyone can read the text (21 Pt)
- Make sure that everyone can read the text (18 Pt)
- Make sure that everyone can read the text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

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

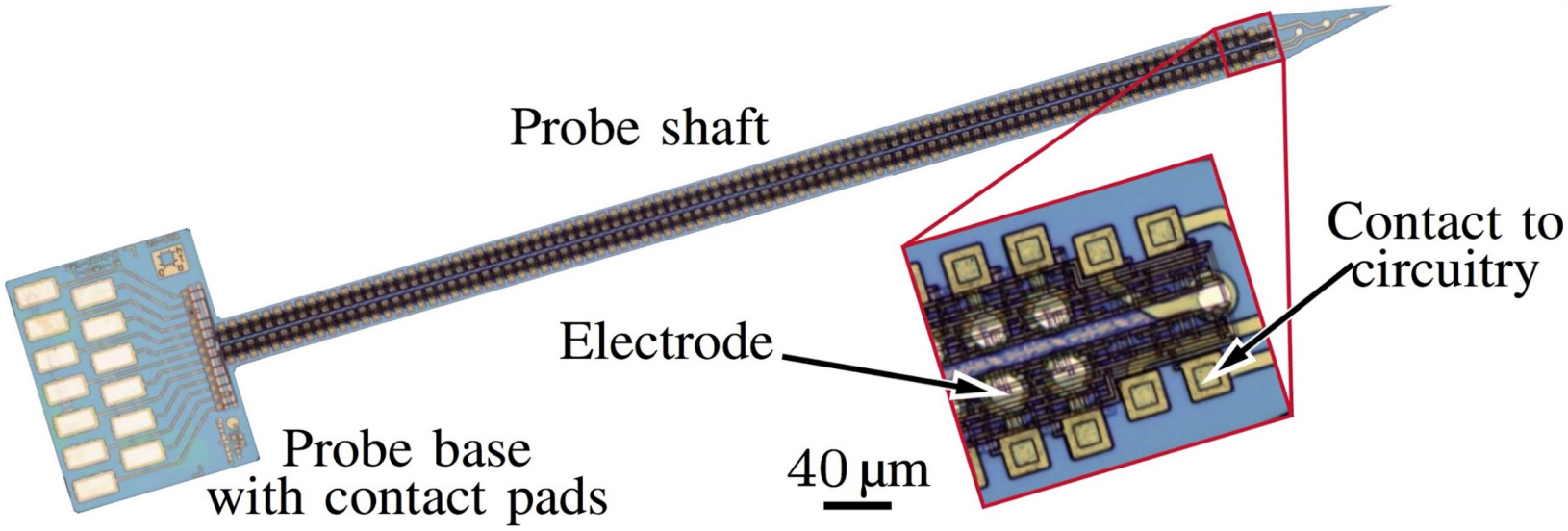
Abbreviations

- 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



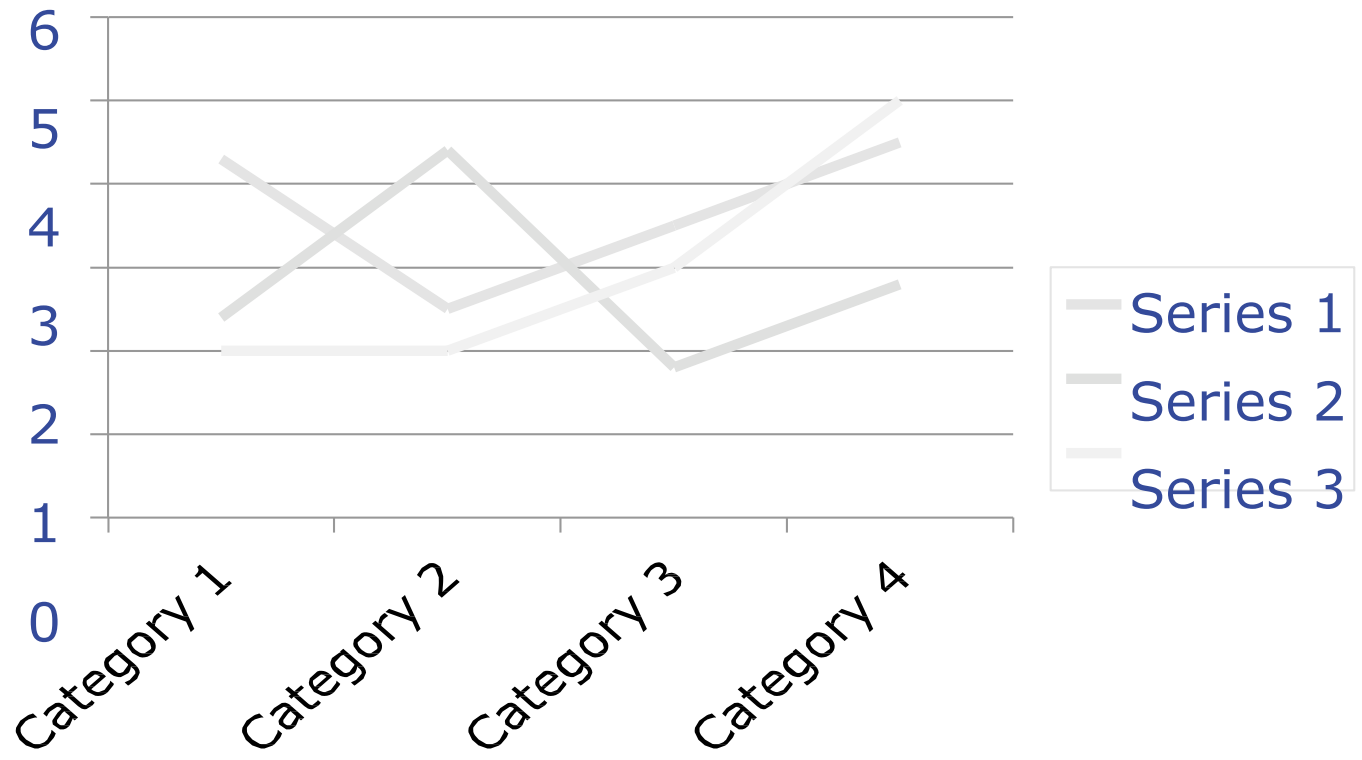
Check resolution and aspect ratio!



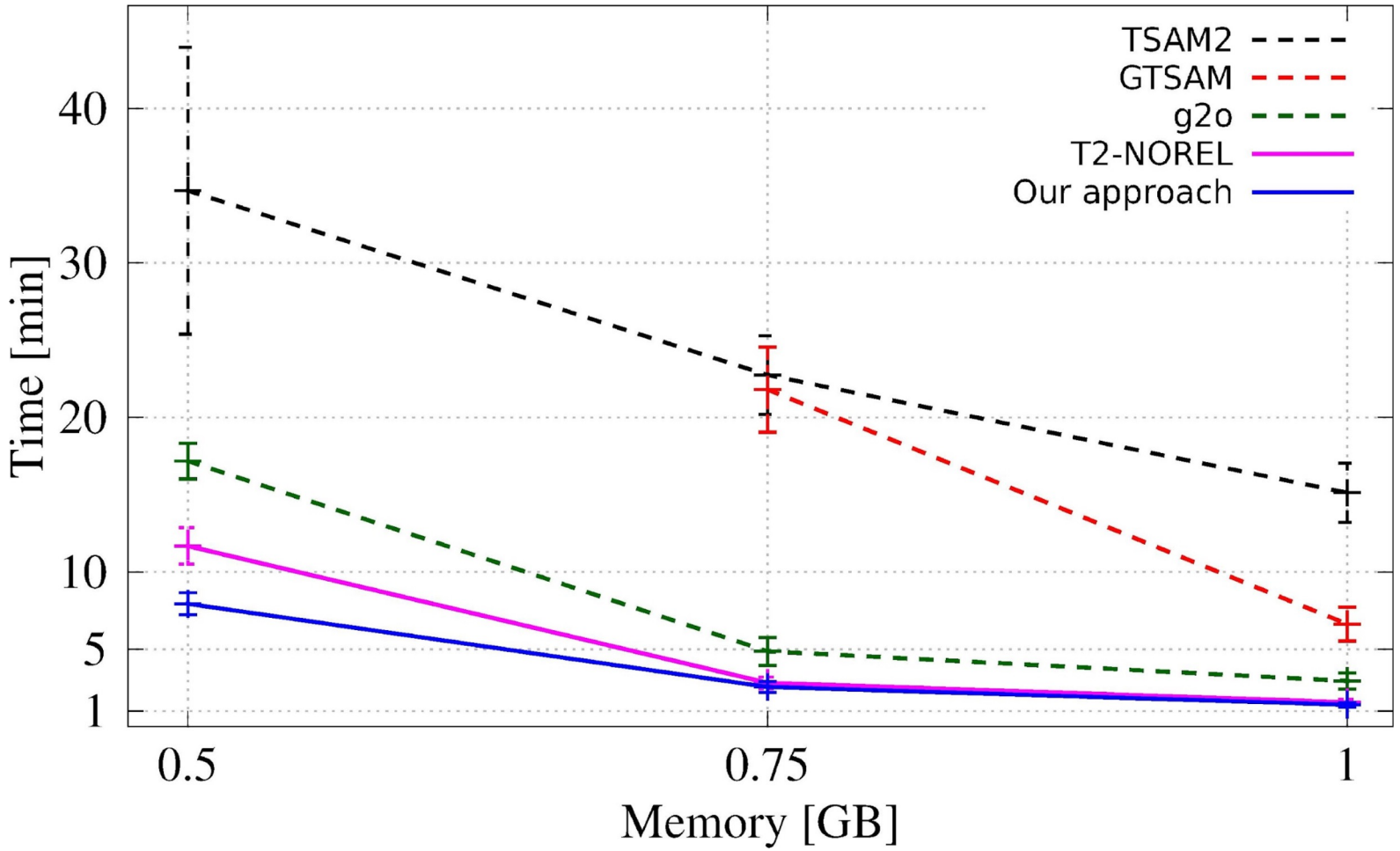
Figures

- 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

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- Slides: Content and Layout
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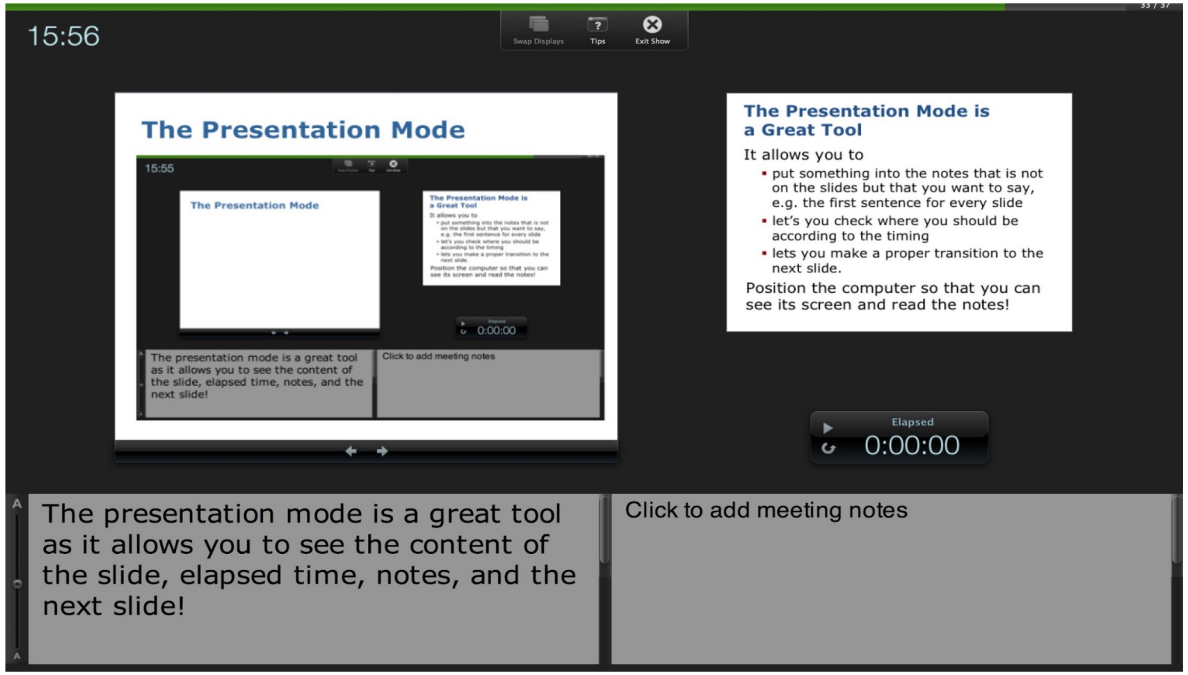
Speaking

- 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

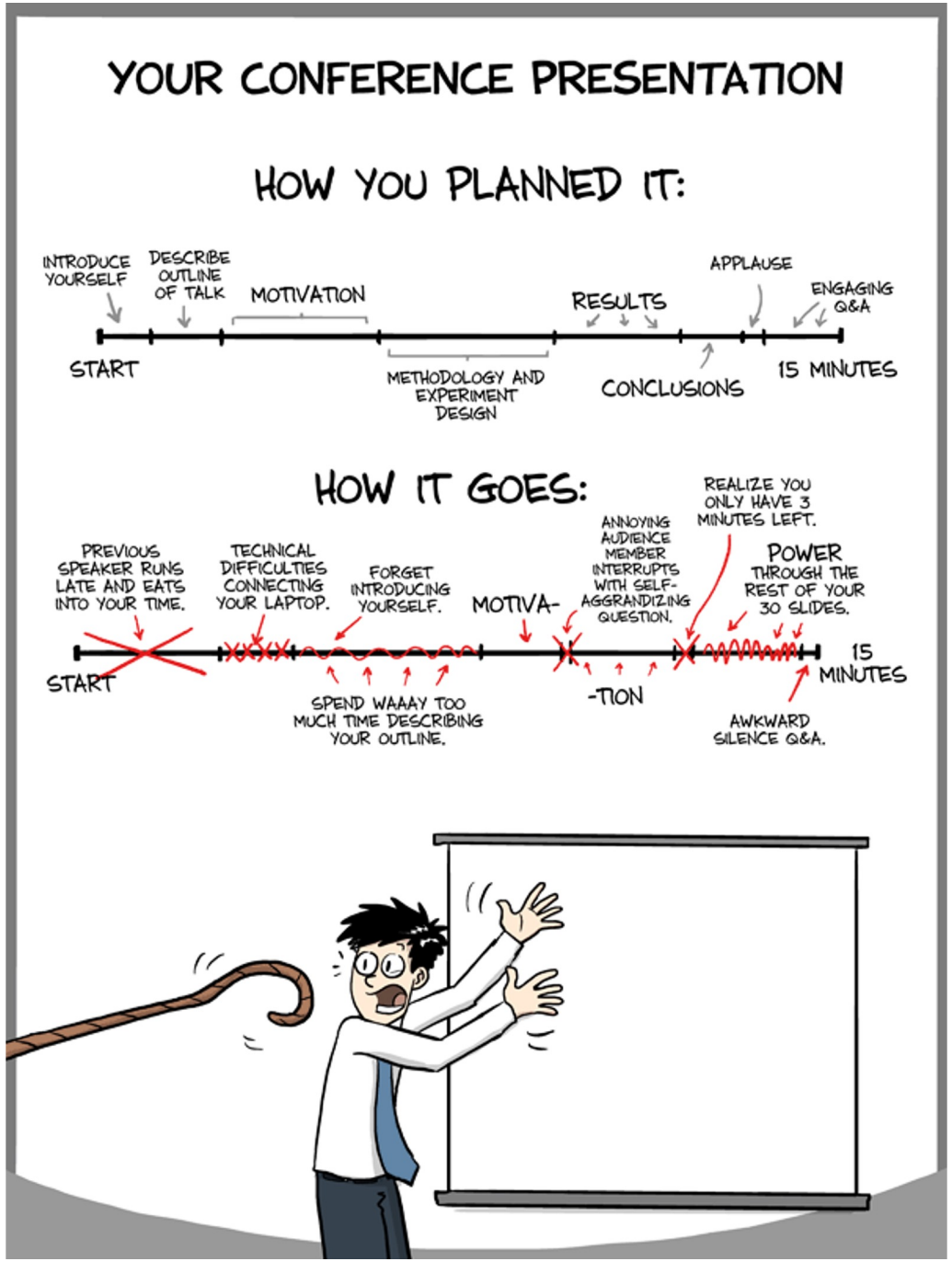
Other Important Aspects to Consider

- 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!


YOUR CONFERENCE PRESENTATION
HOW YOU PLANNED IT:
INTRODUCE YOURSELF
DESCRIBE OUTLINE OF TALK
MOTIVATION
METHODOLOGY AND EXPERIMENT DESIGN
RESULTS
CONCLUSIONS
APPLAUSE
ENGAGING Q&A
START
15 MINUTES
HOW IT GOES:
PREVIOUS SPEAKER RUNS LATE AND EATS INTO YOUR TIME.
TECHNICAL DIFFICULTIES CONNECTING YOUR LAPTOP.
FORGET INTRODUCING YOURSELF.
SPEND WAAAY TOO MUCH TIME DESCRIBING YOUR OUTLINE.
MOTIVA-
-TION
ANNOYING AUDIENCE MEMBER INTERRUPTS WITH SELF-AGGRANDIZING QUESTION.
REALIZE YOU ONLY HAVE 3 MINUTES LEFT.
POWER THROUGH THE REST OF YOUR 30 SLIDES.
AWKWARD SILENCE Q&A.
START
15 MINUTES

Questions / Interruptions?

- 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

Summary

- 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