How to give a good presentation

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Driven by doing.

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Objectives of the session

At the end of the session, students will be able to

1. Explain why we give / attend presentations, and why it matters
2. Describe the different types of (mostly) academic presentations
3. Know the main rules for planning & preparing a good presentation
4. Explain the structure of a good presentation
5. Understand the important aspects in the delivery of a presentation

Previous experience

- How many of you have given a formal talk?
- How was your experience?
- How many of you have attended a scientific meeting? (Local? National? International?)
- What is the best presentation you ever attended? Why was it so good?
- What is the worst presentation you ever attended? Why was it so awful?

Importance of a good talk

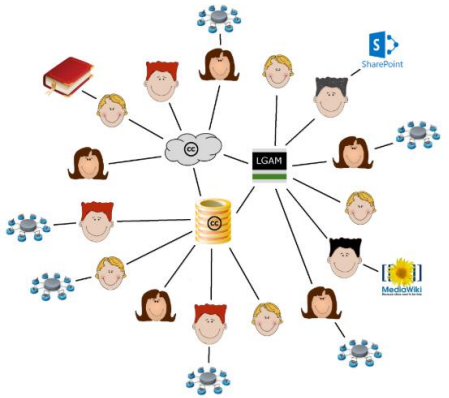
- First impressions matter!
- There's no point in doing good work if others don't know about it or can't understand what it is that you did
- Good practice for any career!

→ Helps you sort out what you've done, and understand it better yourself

https://www.princeton.edu/~archss/webpdfs08/BaharMartonosi.pdf

Communication & Career

You are **joining a community for the long-term** …. People should know you!



Giving good presentations helps you make and use **professional connections wisely**

Communicate your ideas well will help you forge mentoring and technical relationships in the service of your **professional goals**

https://www.princeton.edu/~archss/webpdfs08/BaharMartonosi.pdf

Why do we give or listen to talks?

- **Communicate your research/work in your *own* discipline**
  Publicize your work, get feedback from colleagues
- **Create relationships/collaborations *inside* or *outside* your discipline**
- **Get to know the work of others**
  Conference/Seminar/Worskhops = source of information/ideas
- **Know your goals! Think about personal outcomes when/after you give a talk!**

http://acmg.seas.harvard.edu/education/presentations/carlton_presentations.pdf

Types of Presentations

- **30 to 60 seconds-long “elevator speech” (informal)**
- **Quick 5-minute “This is what I do” talk**
- **10 to 15 minutes-long conference paper presentation**
- **Project / proposal presentation**
- **Thesis defense** (~ research seminar)
- **Job talk**

What they all have in common:

- **Never** enough **time** to talk about everything → **be selective**!
- All of them **reflect on you** so you need to **practice/polish**
- Focus on a **clear purpose** and **message** for your audience
- Talk **preparation** can be **ENDLESS**

For a regular scientific meeting: ~ 5 – 10 hours for slide preparation and ~ 2 – 4 hours for practicing

https://www.princeton.edu/~archss/webpdfs08/BaharMartonosi.pdf

Expectation of the audience

- **Short informal presentation** (5 min)
  Describe what you're doing and give ONE result
- **Talk for audience within your (narrow) discipline**(15 min)
  Journal's description. Audience = reader of journal → no background needed
- **Talk at scientific meeting** (10-15 min)
  Higher diversity of audience → more background needed
- **Workshop presentation** (widely variable)
  Specific task. Use results reported in literature; compare with yours

Make a contribution to the workshop & Advertise your work

- **Research seminar** (~ 1 hour)
  From education level to latest research. Broader audience.

http://acmg.seas.harvard.edu/education/presentations/carlton_presentations.pdf

For an effective presentation

1 **Plan the presentation**

Gather your thoughts

Find answers to the five planning questions.

Why	Purpose
Who	Audience
What	Content
When	Time constraints
Where	Space constraints

2 **Design the presentation**

Define a structure

3 **Create the slides**

Convey messages

4 **Deliver the presentation**

Master all channels

5 **Answer questions**

Drive your point home

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J. Doumont, Principiae, 2009, www.principiae.be

Top 10 Pointers for a Good Talk

1. **Be neat**

2. **Avoid trying to cram too much into one slide**
   - Use slides as a help to transfer the information, not as a textbook
   - How many slides? ~ 1 min/slide + time for questions

3. **Be brief**
   - Use KEYWORDS rather than long sentences

4. **Avoid covering up slides**

5. **Use a large font**

https://www.princeton.edu/~archss/webpdfs08/BaharMartonosi.pdf

Unreadable tiny text is not worth presenting

Be careful about font size in captions, figures, plots, etc. !

AVOID YELLOW COLOR

http://acmg.seas.harvard.edu/education/presentations/carlton_presentations.pdf


Avoid using photographs as a background in slides with text
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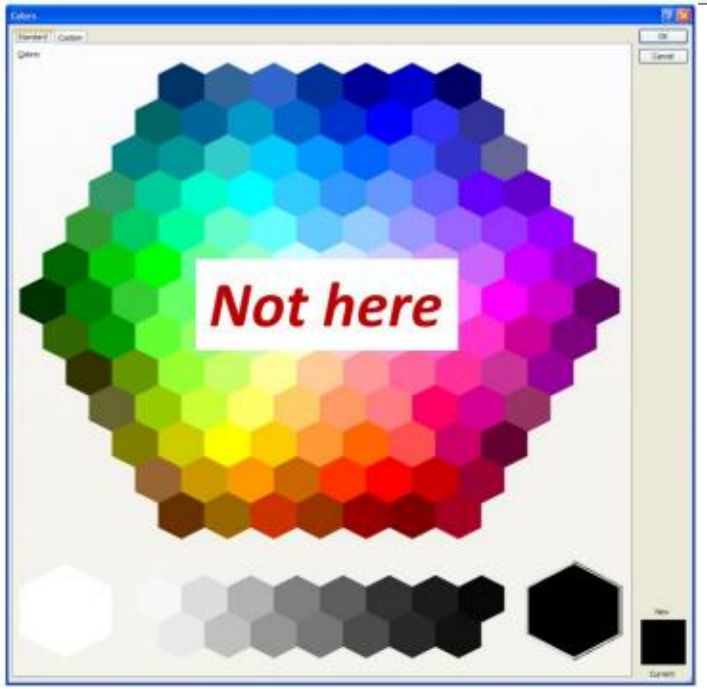
Which colors should we use?

General rule:

For text: dark colors

For areas/boxes: desaturated bright (=pastel) colors

Outline of areas/boxes: same color but darker



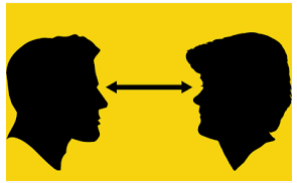
https://users.ece.cmu.edu/~pueschel/teaching/guides/guide-presentations.pdf

Top 10 Pointers for a Good Talk

6. **Use color to highlight your statements**

7. **Use illustrations to emphasize the KEY concepts**
   - Include limited animations

8. **Make eye contact with the audience**
   - Don't talk looking at screens or at ∞



9. **Be ready to start skipping slides if time is running short**

10. **PRACTICE!**
    - Have a perfect control of the speech and slides

https://www.princeton.edu/~archss/webpdfs08/BaharMartonosi.pdf

Other things to consider

- **Oral communication is different from written communication**
  Keep it simple and focus on a few key points
  Repeat key insights

LIMITED TIME

- **Be sensitive to your audience**
  Same talk + different audience = adjusted talk

- **Make the audience want to learn more**

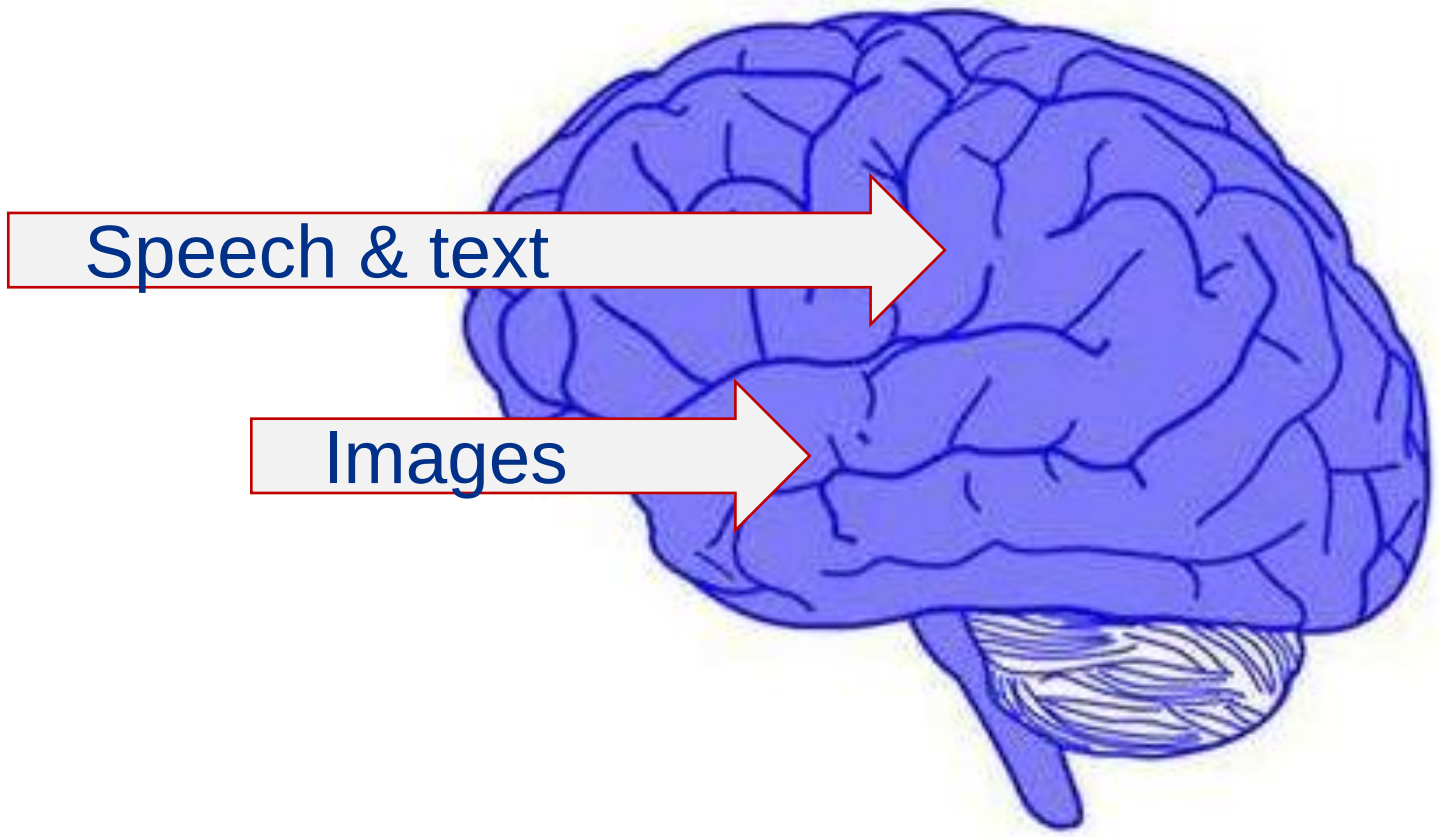
VOICE TONE & IMAGES

- **Understand EVERYTHING you present**
  Scientists can see right through you when you don't

DO NOT EMBARRASS YOURSELF

https://www.princeton.edu/~archss/webpdfs08/BaharMartonosi.pdf

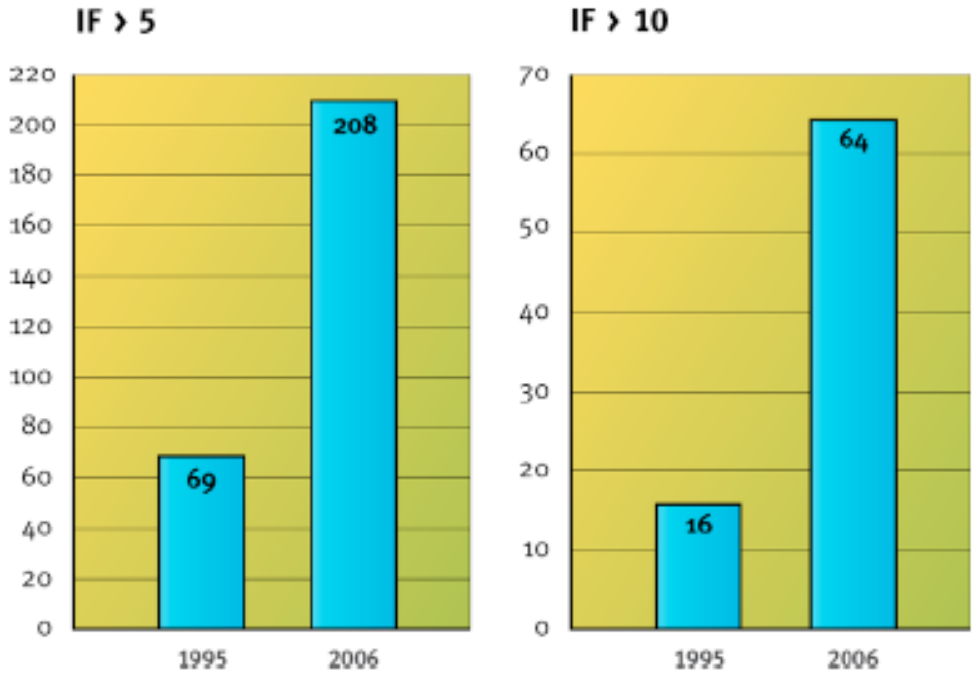
Text/Speech vs. Images Processing



No one can read and listen at the same time!

Have images complement what you say (effective redundancy), not repeat it!

Use the best graph type for the type of data you are displaying



And keep it as simple and unadorned as possible

Example: J. Doumont, 2007, www.principiae.be

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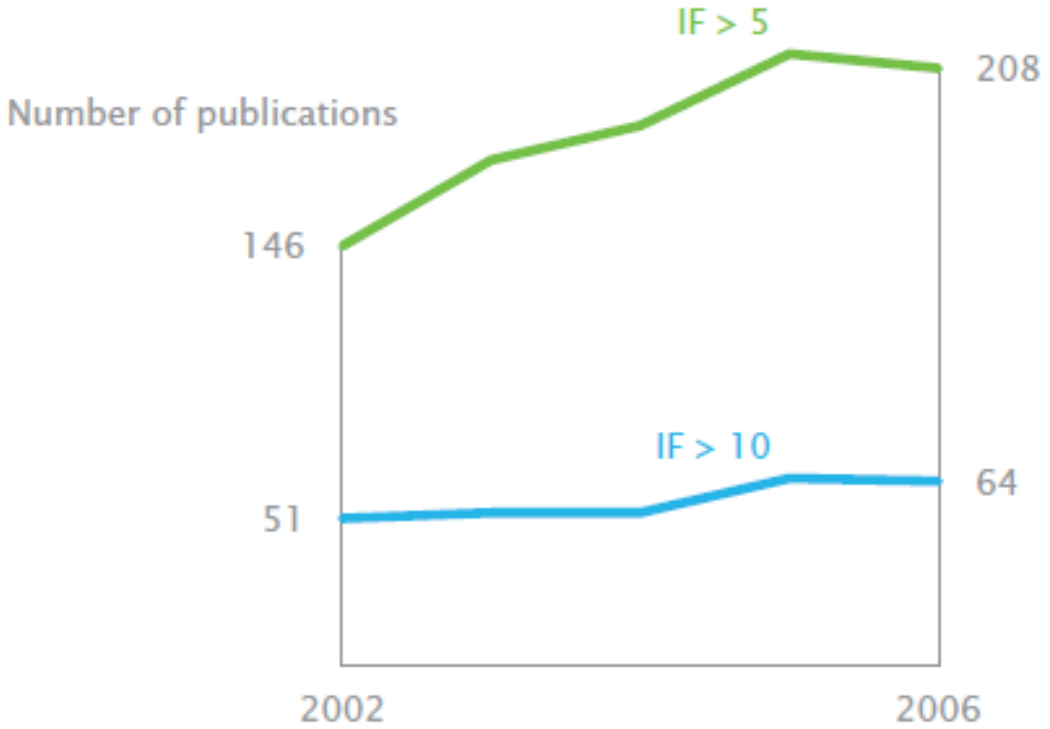

Example: J. Doumont, 2007, www.principiae.be

More things to consider

- **Be deep in your knowledge**
  Think of what questions you could be getting to understand something new and important about your work

- **Handling Q&A**
  Show that you have the proper knowledge
  Be honest if you haven't thought about other approaches
  In general, depth is obtained through hard work. It is fine if you do not know how to reply to all questions.

SAME IMPORTANCE AS THE FORMAL TALK

https://www.princeton.edu/~archss/webpdfs08/BaharMartonosi.pdf

General Talk Structure

- **Background** (1 or 2 slides)
  Information that informs “what you are going to tell them” in context

- **Motivation** (1 or 2 slides)
  Why “what are you telling them” is critical and important

- **Research slides** (NA)
  “What you are telling them”. Focus on the important, broad-interest results (audience does not expect to understand everything you SAY, but becomes “distressed if it doesn’t understand everything it SEES)

- **Conclusion/Summary** – “What you told them”

General Talk Structure

First, focus on your audience	Attention getter	A way to lead the audience to the need efficiently
	Need	A difference between actual and desired situations
Introduce yourself in the task	Task	What I decided/was asked to do to address the need
	Main message	The one sentence I want my audience to remember
	Preview	A map of the body (ideally three points, max. five)
	Point 1	
	Transition	
	Point 2	
	Transition	
	⋮	
	Review	A recap of the body, leading into the conclusion
Focus again on your audience	Conclusion	What the above means to the audience in the end
	Close	A way to end the presentation clearly and elegantly

J. Doumont, Principiae, 2009, www.principiae.be

Acknowledgments

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Background Slides

Background slides are significantly important because they motivate your research and place it in context

> 50 % of talk preparation on background slides

Background slides must be customized for audience

Background material should be pedagogical but research-oriented.
Expose the major gaps that motivate your research.
Literature review (keep it at a minimum).

Attractive and informative Slides

Do not lose the audience at the beginning
Audience should learn something

http://acmg.seas.harvard.edu/education/presentations/carlton_presentations.pdf

Research Slides

Build the information targeting the final main (take-home) message

Each slide should convey only a single message to build up the final case (repetition is OK; do not paraphrase too much)

Information accessible to all audience

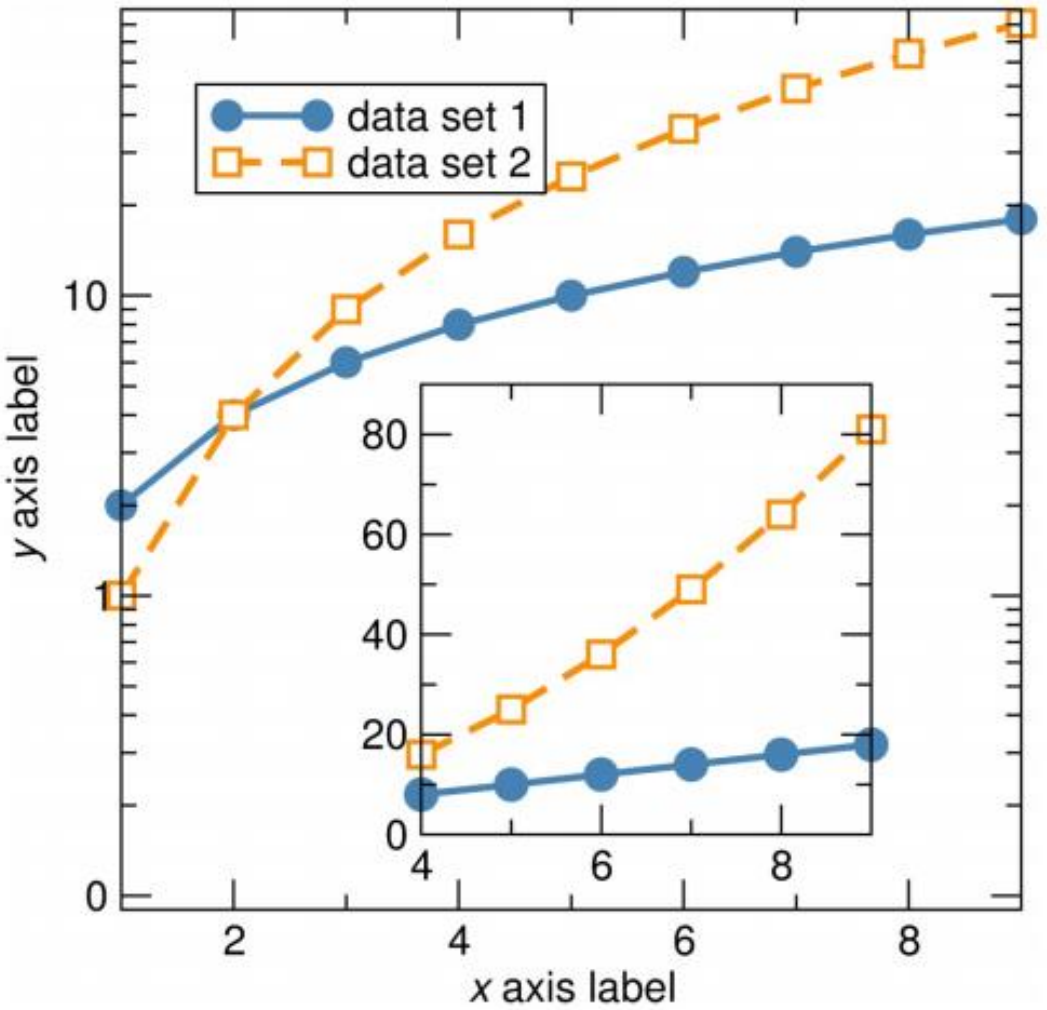
Title and subtitles of each research slides different
(slide take-home message)

The MOST important results, only. Do not use the direct figures/plots of the paper

Papers' plots and figure should be cleaned up for presentations

http://acmg.seas.harvard.edu/education/presentations/carlton_presentations.pdf

How to present a plot



Do not read the plot labels

Do not read the legend

The explanation of the plot should be merged with your story

Use insets to emphasize/highlight

Make it as simple as possible

https://www.mrl.ucsb.edu/~seshadri/PreparingFigures.pdf

Animations help: Example w/o

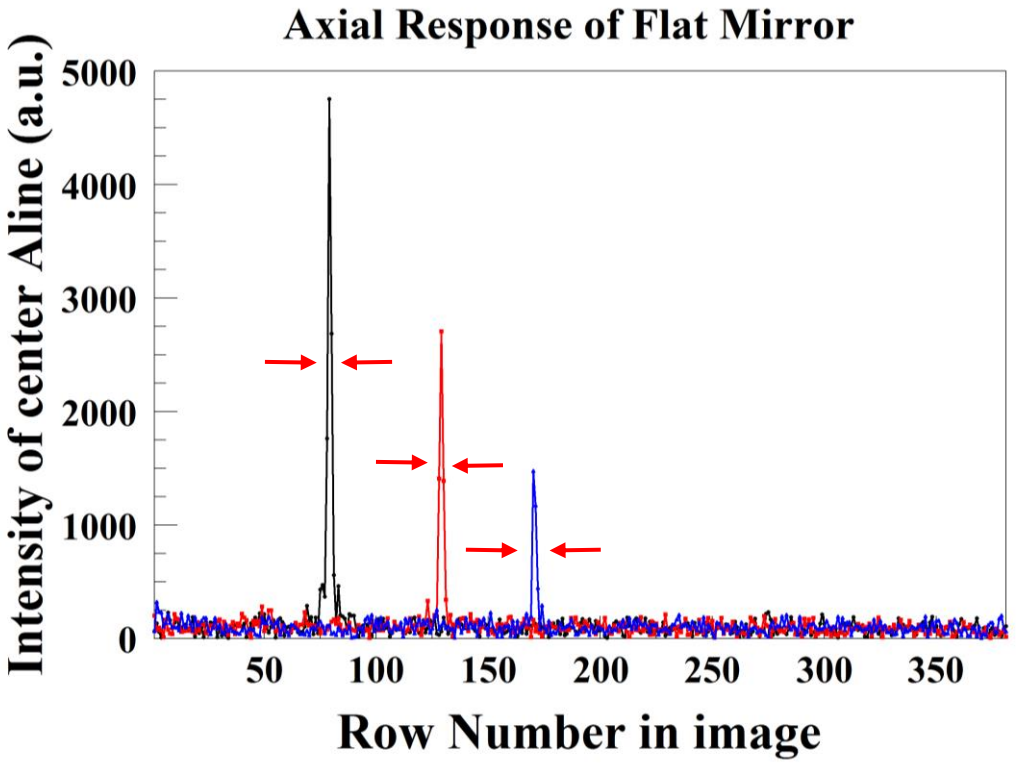
Characterization of the system: axial response of mirror

Measured **SNR of 113 dB**

With 500 mW sample power

And 1 ms exposure time

23 dB roll-off at a depth of 350 µm



Measured axial resolution of 1.8 ± 0.4 µm

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Slide prepared by J. Barrick, grad. Student at UNC-Chapel Hill

Example with animations

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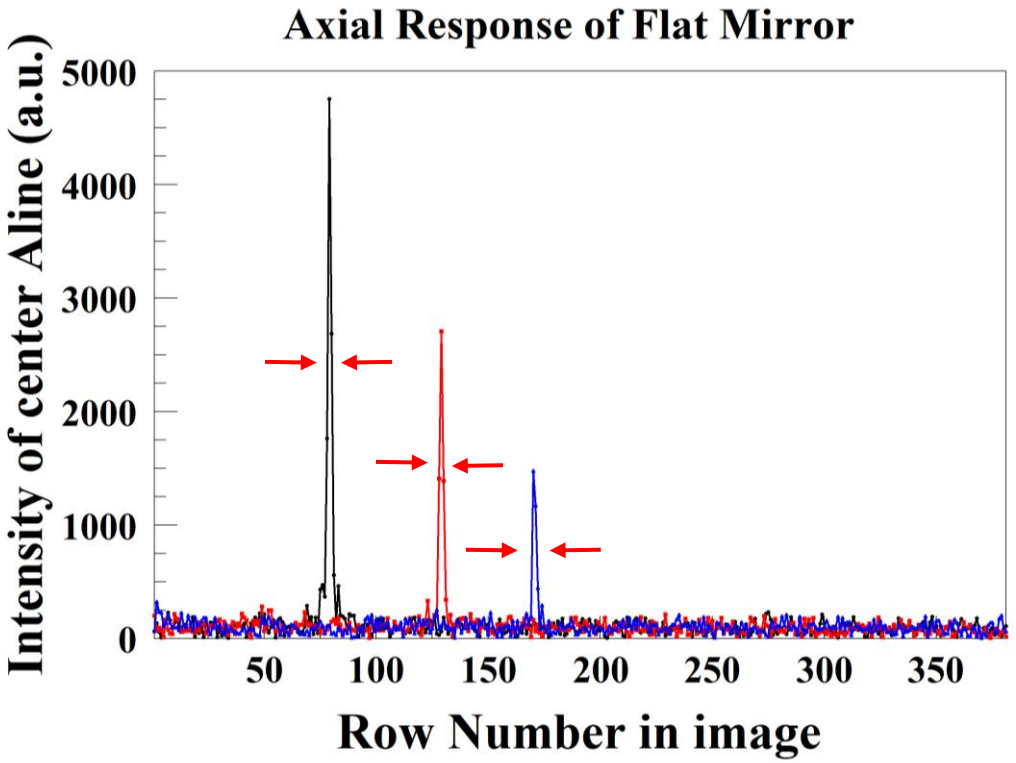

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How to IMPROVE?

- Practice by yourself, in front of friends/colleagues, or of a webcam/ large monitor/…
- Memorize your outline, but never the exact words you'll use
- Needless to say: NEVER, EVER READ slide text, bottom notes, or any other type of material, unless for specific effect
- Avoid filler words
- Find "your" effective speaker and adopt "his/her" habits

Learn from the best

Questions

Thank those who ask:
"this is a really good question"
"thanks for asking that question"

- **Leave time for questions!**
- **Try to anticipate possible questions when preparing talk**
- **Don't deliver a hesitant response to an unexpected question – better be honest and say cheerfully that "*this is a very interesting point that I'll need to investigate*" OR "*this is outside of my scope/area.*"**
- **Your response is for the whole audience (eye contact!)**
  Consider repeating/rephrasing the question for the audience
- **Keep answers to questions brief to allow for more questions**

Attitude and body language

- **Smile – it relaxes your audience**
  Use a joke or ask a general question if you feel comfortable
- **Speak clearly, not too fast. Adjust your tone and volume, emphasizing when needed. Modulate well.**
- **Stand tall. Don’t be a statue. Don’t put your hands in your pockets, don’t cross your arms, & don’t move them too much.**
- **Don’t point to the audience with the laser pointer!**
- **If someone asks a question during the talk, be polite and tell them that you will respond at the end. Note that you must finish in due time.**

http://acmg.seas.harvard.edu/education/presentations/carlton_presentations.pdf

J. Doumont, Principiae, 2009, www.principiae.be

Stage Fright

- **It is normal to feel your heartbeat the first few minutes of your talk, BUT get over the butterflies and set the right tone**

Flow of adrenaline is a positive force

- **Usually, the chair or host of the session will introduce you. If not, use 30 seconds to introduce yourself.**
  Before the talk, meet the session chair and meeting organizers

- **Start the talk by thanking your hosts and chairs. Say hello to the audience, thanking their presence and expressing your pleasure at having this opportunity.**

- **Always show a positive attitude**

You are the reflection of your work

Equipment

- Know your laptop
- Get a remote mouse (→ free roaming)
- Copy talk onto computer well in advance, in case of snags
- Check laptop and projector work
- Have several back-ups in different pen drives
- Find out how mic works
- Expect the unexpected; don’t despair if it happens!

https://users.ece.cmu.edu/~pueschel/teaching/guides/guide-presentations.pdf
https://www.cs.ox.ac.uk/files/2263/PresentationSkillsSeminar.pdf

Dress code

- **Know your audience**
- **Usually, use neutral-color, high-quality clothing**
  IMPORTANT, clean clothes
- **It isn’t a fashion show**
- **NEVER over-dress, but…**
- **Avoid denim**
- **Dress comfortably**
- **The way your hair looks really does matter**

For women: avoid a lot of make-up
For men: neat beard

https://www.activia.co.uk/blog/5-tips-on-how-to-dress-for-a-presentation

How to be an effective audience?

- **A lousy audience is just bad as a lousy speaker**
- **Be engaged in the talk; keep your concentration**
- **Try to mentally poke holes into what's being presented**
  Generation of new ideas and questions for speaker
- **Ask questions!**
- **Don't have an open laptop during a talk**
- **There's nothing that helps a speaker more than to see you nodding your head in approval**

http://acmg.seas.harvard.edu/education/presentations/carlton_presentations.pdf

Resources

- **Books**

Garr Reynold, *Presentation Zen*
Andrew Bradbury, *Successful Presentation Skills*
Max Atkinson, *Lend Me Your Ears*
Cliff Atkinson, *Beyond Bullet Points*
Bob Etherington, *Presentation Skills for Quivering Wrecks*

- **Online**

http://www.garrreynolds.com/preso-tips/
https://www.princeton.edu/~archss/webpdfs08/BaharMartonosi.pdf
http://acmg.seas.harvard.edu/education/presentations/carlton_presentations.pdf
https://users.ece.cmu.edu/~pueschel/teaching/guides/guide-presentations.pdf
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