

Some tips to present a scientific contribution

A field guide

For doctoral students and interns

MIMESIS, Inria / CNRS — Strasbourg

How to structure a talk

Six steps to ensure a good presentation of your work:

1. Context
2. Challenge
3. State of the art
4. Method
5. Results
6. Conclusion

Explain the topic before the details.

What this slide does

- Introduce the field in plain language.
- Your grandmother should follow it.
- Use a nice, representative picture.

Common errors

- Jumping straight into equations.
- Field jargon with no definition.
- Too much text on the slides.
- A picture that decorates but doesn't inform.

Rule of thumb

If only experts can follow your first slide, you have already lost half the room.

Show what is missing, and why it matters.

Why does it matter?

Link the problem to the broader stakes of the field — applications, cost, knowledge.

Why is it hard?

Explain what makes a naive approach fail. The difficulty is what makes your contribution interesting.

Rule of thumb

A well-stated challenge is half the talk.

Compare your work honestly with what already exists.

Approach	Accuracy	Cost	Complex geometry
Fitted FEM [Dupont, 2019]	High	High	Hard (remeshing)
Penalty methods [Durand, 2021]	Medium	Low	Easy
This work	High	Low	Easy

A comparison table makes your gap obvious at a glance.

Citing well

- Cite as [Author, year].
- Group works by idea, not date.
- Credit work fairly.
- Show the gap.

Rule of thumb

Don't just list papers — compare them, so the missing piece becomes your contribution.

Explain the idea before the technical details.

1. **Intuition first** — one sentence or one schematic that captures the core idea.
2. **Then the formalism** — introduce notation only when needed; every symbol defined on its first use.
3. **Tools from the literature** — anything from the literature gets a citation [Author, year].
4. **Your contribution** — explain your own ideas.

Rule of thumb

A simple, clear idea is worth more than a complicated explanation.

Clearly explain your contribution.

Get your point across

- Compare to the literature — qualitative or quantitative.
- Put YOUR result in evidence [me & co-authors, year].
- One message per figure; label axes.
- Interpret the numbers — don't just show them.

Rule of thumb

A figure people understand in five seconds is better than a perfect one they cannot read.

Answer the question you asked at the start.

What you showed

- Restate the contribution in one line.
- Say clearly how you improve on the state of the art.

Where it goes next

- Give concrete, credible perspectives.
- Link them back to the general challenge.

Rule of thumb

People remember your last slide — make your main message impossible to miss.

General advice: small mistakes that ruin talks

Few sentences

Slides are reminders, not a script. Say the sentences; show only keywords.

Define every notation

Any non-standard symbol is introduced the first time it appears.

One idea per slide

If you need two messages, you need two slides.

Readable figures

Big fonts, labelled axes, one curve highlighted.

Consistent citations

Same [Author, year] style everywhere; credit prior work.

Respect the timing

The session chair can stop you.

Remember

- Tell one clear story. Speak slowly.
- Context → Challenge → State of the art → Method → Results → Conclusion.
- Every slide advances the story.
- Slowly increase the complexity.

Good luck!