

The Audience Wants You to Succeed — Notes on Conquering Science Stage Fright

Before You Begin: Stage Fright Is Normal

*Before we talk about techniques, slides, or storytelling, let's get one thing out of the way: **feeling nervous before a talk is completely normal.** If your heart races when you see your name on the program, if your hands get cold while setting up your slides, or if you suddenly forget every word you planned to say the moment you step onto the stage, nothing is wrong with you. You are not “bad at public speaking.” You are human. Even people who look effortlessly confident at the podium still feel a surge of adrenaline before speaking. The difference is not that they lack fear; it's that they have learned how to move forward with it. Nervousness is not a sign of unpreparedness; it is often a sign that you care about your work and about doing it justice. Importantly, the anxiety you feel is usually far more visible to you than to anyone else in the room. So, if you take nothing else from this section, remember this: **confidence is not the absence of nerves, but the willingness to speak anyway.** Everything that follows in this article is about helping you channel that energy into clarity, connection, and presence on stage. Let's dive in!*

I still recall the conversation I had with my advisor about attending a conference a few months ago. “*There is this fantastic meeting you should definitely attend!*” he said. “*Please send me a draft abstract. I'll revise it, and then we'll submit it together.*” At that time, I did not think too much about it. It was an opportunity to visit a nice host city that I had never seen before, get away from the lab routine, and hear exciting science from the top researchers in my field.

On a busy day, a couple of weeks later, I opened my email between two long experiments, and I found out that my abstract had been accepted as an oral presentation. I stopped and read it again. *Oral presentation.* I have to stand on the podium in front of all those incredibly talented scientists and present my research-- Oh, shoot!

Many of us have experienced these mixed emotions— the thrill of receiving such an important recognition and the fear of stepping onto the stage and being at the center of attention. All the days spent pipetting, writing code, and analyzing data led me to that moment, but none of that bench work prepared me to take the microphone and present my work to a room full of strangers.

The good news? **Public speaking is a skill that can be developed**, not a trait you are born with or without. Just like troubleshooting a(nother) Western blot, public speaking can be learned, improved, and — believe it or not — eventually enjoyed. Many early-career scientists, and more experienced ones, have gone through the process of optimizing research talks. Here are seven things that may help you prepare to deliver your next talk without fear:

Tell them a story

Here's a truth that nobody told you early in your career: your audience actually does not want a data dump—they want **to be entertained**. Think about the talks that stuck with you. The speaker probably walked you through a problem or a hypothesis, built some tension and interest with well-designed experiments and exciting data, and then delivered a satisfying take-home message (maybe with a summary sketch). That's storytelling, and it works just as well with scientific data as it does around a campfire. You do not remember a talk only because of the data presented; you also remember a talk thanks to the ability of the speaker to catch and keep your attention.

You do not need to write a Shakespeare play with your data. Just frame your research as a journey: *"We noticed something we could not explain. We asked a question and tried to solve the mystery. We tried this approach, and here is what we found."* Give your audience a reason to care about you and your research question before you show them a graph. A slide full of data, even of revolutionary data, means nothing without context. But a well-placed linker phrase like *"...and at this point, our data was pointing in an unexpected direction..."* can make even a Western blot feel like the plot twist your audience was waiting for!

Less is more (seriously, you do not need another slide)

We are all eager to share the fantastic data we generated which took us days and nights to create and analyze. However, your audience is less interested in listening to you rush through your tenth heatmap with a font size of 9. An oral communication is not your PhD dissertation nor a paper; you cannot fit in every experiment, every control, and every supplementary panel you generated. An overloaded talk can do more harm than good, as your audience will likely get lost in the details.

The best presentations are **focused** and **right to the point**. After having drafted your slides, take your time to go through each one and ask yourself a few simple questions: *Is this slide really necessary for my audience? Is the data shown here redundant? Is this slide so packed that it is barely legible?* If a slide is not needed, no matter how much time and energy you spent creating it, cut it (or hide it from your main slide deck, so you can always retrieve it quickly if needed to answer a question from the audience). *Be brief, be brilliant, and be gone!*

Practice until it feels boring (then practice once more)

We really would like to offer you an easy solution here, but unfortunately, there is no shortcut. **Practice makes perfect**. The difference between an unremarkable talk and a memorable one is not due to natural talent, but *intentional training*. Practice alone in front of your mirror. Practice in front of your napping cat. Practice in front of your partner who really wants to go out for dinner. Each time, you will notice something that can be improved: a transition between two slides that feels choppy, a concept that needs a little

more explanation, or a section where you consistently get sidetracked and lose your thread.

Rehearsing is not about memorizing your lines; it's about *being so comfortable with the flow and design of your talk that you can change it and adapt on the fly if needed*. The unexpected is always around the corner: a glitch in the audio setup, a slide that will not move forward, or a sudden interruption from the audience. The more confidence you build through practice, the less those inconveniences will impact your performance. Lastly, practicing helps you respect your allotted time. If you are given fifteen minutes, plan and rehearse for twelve. Nothing says *"I have not practiced enough"* like rushing through your last slides because your time is up and you need to wrap it up. Your audience will remember a well-paced and well-defined talk far longer than one that aimed to cover everything in detail but conveyed nothing clearly.

Master your tool: The five Ps of your voice

Imagine for a moment giving your talk as a podcast, with no slide, no pointer, and no video, but only the **power of your voice**. Your voice is the most important tool in the delivery of a successful talk. Like any tool, your voice has some parameters that you can control and fine-tune to make your presentation memorable. These are *the five P's of your voice*:

Pitch. Pitch refers to your vocal range, how your voice can reach high and low notes. Imagine how boring a sonata would be if the pianist repeated the same notes for 10 minutes! Similarly, a flat, monotone voice will put your audience to sleep, no matter how innovative and groundbreaking your data is. Varying your voice tones keeps your audience engaged and highlights what matters most.

Pace. Like pitch, variety in pace is essential. Speaking too quickly is not advisable, but speaking at the same dull tempo is equally problematic. Practice adjusting your speaking speed – the number of words per minute – to emphasize certain parts of your speech and maintain the audience's interest. Slow down to highlight concepts that require full attention, and speed up to show excitement.

Pause: Intentional pausing is a powerful technique that serves two complementary purposes. For the audience, it highlights what has just been said and gives people time to consciously process the key points. For the speaker, pausing provides an opportunity to briefly focus on the next section of the speech and find the right words to move on, or drink some water. While you practice your speech, try pausing at different points to see where a break best fits in. When you are satisfied with the flow of your speech, just write down in your notes the word PAUSE in capital letters to remind yourself to use the power of silence.

Projection: Projection refers to the strength and volume of your voice. As a rule of thumb, always remember to speak to the people farthest from you in the room to be sure that everyone can hear your story. But be careful: projecting your voice does not equal yelling

or screaming. It means using your entire vocal apparatus, breathing techniques, and diaphragm.

Passion: Remember that your voice is the mirror of your soul. Let your passionate voice and your word choice engage your audience. A little genuine enthusiasm is infectious, and it is the difference between a presentation that informs and one that inspires.

Know your filler words (and avoid them)

Um. Eh. So. You know. We all have those **little verbal crutches** we lean on to fill in the silence while thinking. In a professional talk, they convey hesitation, uncertainty, and a lack of preparation. Record yourself while practicing your speech and listen for your filler words, or ask a friend to tally them for you.

The goal is not to eliminate filler words, but to be aware enough that you can replace them with *intentional pauses*. At the beginning, it may feel strange, almost uncomfortably quiet. But from the audience's perspective, it looks like mastery and professional confidence.

What to Do When Your Body Forgets How to Body

There is an interesting phenomenon that strikes the moment you step up to a podium: you **forget how to be a person**. Your hands are all over the place, your legs don't know how to arrange themselves, and you become painfully aware that *you have a body*. What is it supposed to do while your mouth talks about spatial transcriptomics?

Let's start from the base. The best position is the obvious one: stand with your feet open to evenly distribute your weight. Your posture also matters a lot. Never collapse inward like you are hugging the lectern or laying on it, with hunched shoulders and caved chest. Stand still with your shoulders open a small step from the lectern — your posture will convey confidence and will make it easier to breathe normally.

Now, let's talk about your hands. Hand gestures can be the most powerful or the most distracting element of a presentation. You should practice how to *use your hands intentionally*. Use them to enumerate, to emphatically highlight a pause with a stop gesture, or simply keep them comfortably at your sides.

And, lastly, *do not forget to smile and maintain eye contact*. Show your passion for the data you are presenting and engage with your audience around the room.

Your body starts talking before you say a word. The message it should send is simple: I am comfortable here in front of you, and I know what I am talking about.

Surviving the Final Test: Q&A Session

Once you have delivered your talk, the **Q&A begins**—and for many speakers, it is the most nerve-wracking part. However, like the talk itself, it gets easier with practice, and a few strategies can make it much more manageable. A practical tip is to prepare a few backup slides for the end of your presentation. These might include extra data, or methods – anything you expect might come up. Having them lets you show a slide rather than describe from memory, which strengthens your answer and signals mastery to your audience. When a question comes, *repeat or rephrase it before answering*. This ensures you understand and gives you a moment to think. Then answer as concisely as possible. It is fine not to know the answer. Science is full of unknowns, and no one expects you to know everything. You can hypothesize, speculate, or point toward future experiments.

It does not matter if you are stepping towards the lectern for the first or the tenth time. Speaking in front of an audience can always make you feel uneasy. However, the audience is not waiting for you to stumble; **they are rooting for you to tell your story, to inspire them, and to make them think differently about a scientific problem**. If you prepare with intention, practice with persistence, and speak with passion, you will discover that the podium is not a place of fear, but of opportunity. Remember: every great speaker you admire, perhaps even sitting in the room to hear your talk, was once exactly where you are now. They were not born confident at the podium; they practiced, they stumbled, they learned what worked, and they kept showing up. You already know how to do hard things. You troubleshoot experiments that fail for weeks, you read papers that make your head spin, and you survive the journal club. A ten-minute talk? You've got this.

Now go practice! Your cat is waiting.