## Editorial
# 8 Simple Rules for Presenting at a Conference

As an academic/researcher, there are three evolving lists on your CV that typically add to the page count: (1) peer-reviewed publications (clearly, in high impact journals such as *Matter*), (2) grants and proposals (both prepared and awarded), and (3) talks and presentations. Presenting at a conference is one of the rare opportunities for face time with your community. A conference talk is a core part of scientific communication for any researcher or academic. Speaking at the right conference with the right audience and successfully communicating your latest findings is a great way to enhance your career prospects and, in turn, learn about the newest developments in your research field.

Having attended my share of conferences as faculty, and now even more as an editor, I can confidently say there is a huge variety in presentation strategies with varying degrees of success. One of the worst experiences is an awkward talk—for both the speaker and the audience. So how does one give a good presentation? Like politics, everyone has an opinion on the matter, with advice on how to go about a conference talk. Typically, however, they are simply conveying what worked for them. Sage advice: *you* are not *them*. *You* are *you*. A one-size-fits-all approach usually ends up fitting no one. The trick is listening and gathering as much advice as you can, and then adhering to the bits and pieces that work for you. Then, you can pass it on.

There are multiple hits if you google "tips for presenting at a conference." Most of the tips seem like common sense. First, there are plenty of tips on slide management—how many, how information dense, bullets or no bullets, animated transitions (yay or nay?), maximum and minimum size of fonts, etc. If you need such points to prepare slides, there's no judgement. The takeaway is to make them readable to the audience. Uniformity is nice, but not necessary. I've witnessed data-dense slides that were beautifully described, as well as simple slides that were drowned in exposition. Some speakers prepare ten slides for a 20-minute talk, and some speakers can easily go through fifty. Just don't use *comic sans*.

Second, there is constant reinforcement of the importance of preparation. Prepare your slides well in advance. Practice what you are going to say. Rehearse timing, transitions between slides, etc. Clearly, timing is an issue—don't try and cram 30 minutes of material into a 20-minute slot. In terms of preparation, however, we all know the reality. You're ahead of the game if you finalize your slides on the plane *en route* to the conference. More likely is that you finish them sitting at a hotel desk the evening before your talk. If you do finish on the plane, you can rehearse in your seat, quietly going through the slide deck one by one and thinking about what you are going to say. One warning: don't mouth the words—it freaks out whomever you are sitting next to. The more preparation and practice, the better; but just have clear idea of the message you want to convey. An extemporaneous talk that stays on point is more beneficial than a rehearsed speech that meanders.

I must state that the following tips are not for the more "important" talks. If you're giving an invited talk, a keynote, a plenary, TED talk, or seminar, do not follow the advice here. These are for generic, 15- to 20-minute session/symposia talks at a large

conference. For the grad students and assistant professors. The bread and butter of conference proceedings. Talks given in a partitioned ballroom with 30–50 folding chairs, a podium upfront and a projection screen. You know the type. We've all been there. It's 10:32am on the third day of the conference and you're up—your time to shine for 18 min (plus two for audience questions).

So, here are eight simple rules for presenting at a conference:

### You, Not Your Slides, Are the Presentation

One of the crutches of modern conferences is the reliance on PowerPoint. If I had my way, I'd like some conferences to implement "slide-free symposia" as an option/trial. I'm willing to bet the reception would be positive. Alas, projecting a slide deck is the current standard. The key is remembering that the slides are supplementary to your talk. Remember that your talk is meant to be *heard*, not *read*. If I can glean everything from your slides, why do I need you? This doesn't mean to half-ass your slides or to not include relevant content. This just means to ensure your contribution—what you say—adds to the content of the talk, connects the dots, and tells the story. Unlike data and plots and equations, you can pose questions and have dialogs that are difficult to convey with bullet points and animated gifs. Borrowing from the Rifleman's Creed, remember: "Without me, my slides are useless."

### Focus on Selling One Idea

A conference talk can be viewed like an informercial—you are effectively selling yourself and your research. Similar to an elevator pitch, you want to give sufficient information, but get to the point and, more importantly, highlight the novelty/innovation. If you break down an individual talk, most guides outline multiple sections: (1) title slide, (2), introduction or overview, (3) research question, (4) background, (5) theoretical framework or methodology, (6) data, plots and results, (7) interpretation, analysis, discussion, (8) conclusion and next steps, and (9) thanks and acknowledgments. Yes, these things are necessary for a dissertation defense, but you only have 18 minutes! There's not enough time to present everything. Concentrate on one singular message you want convey. My suggestion is to highlight one of three things: (1) the method you used (theoretical framework or methodology), (2) the key results (data, plots and results), or (3) the broader implications (interpretation, analysis, discussion). Choose whatever you think is the most interesting, most innovative, or most impactful. You don't have time to go over all three in detail sufficiently. Leave the audience wanting more.

### Don't Try to Teach

I know, this is a little tricky for professors, but at a conference, you can turn off the teaching mode. If you are teaching too much, your audience will get lost in the message you are trying to convey. Remember, in theory, you are presenting to your peers in a symposia with researchers who presumably do similar work. They know much of the background (some, perhaps, are part of the background literature). This misstep is particularly prevalent in early researchers and students, who like to regurgitate what they may have just learned in the lab. One of the fastest ways to be tuned out by an audience in our field is to present them with information they already know. Do not spend the majority of your presentation going over the existing literature and giving background information on your work—we already know what perovskites are, we've seen that slide on graphene and 2D materials a million times, you don't need to define the terms of the Arrhenius relationship. We get it.

### Don't Be Boring

Obvious? Yes. Frequently ignored? Also yes. If your talk is boring, then you lose immediately; and no matter how great your information is, people won't listen. Energy is contagious. If you don't care about what you're talking about, I surely won't. Tell a story. Or how you came up with the research idea. Or a silly thing that happened in the lab last Tuesday. Tell a joke, even if it's lame. There is a fine line between fun and informative, but look for ways in the presentation to add humor or thought-provoking content. You don't need to be a stand-up comic, but put in some effort to add personality. Differentiate yourself from the other speakers. You will be rewarded for it.

### Ditch the Outline Slide

There is an old public speaking adage that suggests "*Tell the audience what you're going to say, say it; then tell them what you've said.*" This usually includes an outline slide, where you ramble off the sections of your talk. The thought is that this will keep your audience engaged and on track, anticipating what is coming up in your talk. There simply is no time for this. Give your audience (some) credit and assume they can pay attention for 15 to 20 minutes and follow along. If your slides are logically arranged, there should be no need for an outline slide—they only benefit longer talks. If you must, make an outline slide when you are drafting your slides to organize your thoughts and flow of your slides. Then delete it. Don't even think about a bulleted summary slide.

### Read the Room

This rule comes from experience and requires a certain level of adaption and improvisation. Make sure you are engaged with your audience. Making eye contact is a foregone conclusion, but also try to pick up on visual cues. I've watched as audience members—though dedicated, interested academics—checked their phones, answered email, and tweaked their own slides as a poor tenure-track soul was speaking. First, you are not going to engage everyone in the room, but if you find yourself rattling off the details of some equations, and you are looking at blank stares, perhaps it's a sign to move to the next slide. Just made your "ta-da" statement, and don't see nods of approval in the audience? Maybe reiterate the statement in a different way. Don't plow through dense background information, data, or results if you're losing the audience, you will reach a point of no return. Deviate from the plan to keep the audience engaged—there is no benefit in presenting material if no one is listening.

### Wear Nice Shoes

Through my relatively brief academic career and regular conference attendance, I have developed *Cranford's Shoe-Speaker Symmetry Conjecture*. The conjecture proposes that the quality of one's shoes is correlated to the quality of one's talk. My reasoning is that, if one cares about how they are perceived by an audience, they likely have put *some* nominal effort into their selection of attire. If this includes relatively fashionable and matching shoes, then that effort is somewhat above average for the physical science community. Thus, it can be presumed that above-average effort went into the preparation of the talk. Note that this does not consider the quality of the underlying science behind the talk—I've witnessed Nobel laureates speak in flip flops! I'm still gathering data for future confirmation. At the very least, wear something business casual and wrinkle-free.

### Don't Sweat the Small Stuff

To err is human. It's not a big deal to make a slip-up at these conferences—everyone in the audience has been in your shoes. If you skip a slide by mistake, take a pause, apologize briefly, and just go back to the slide. Mispronounce a word or two? Take a

sip of water, clear your throat, and move on. No one is grading you on the presentation. The audience wants to hear your ideas, not a perfect rendition of *Hamlet's Soliloquy*. Some crabby old guy asks a tough question you don't know how to answer? Just admit you don't know it. Such minor flubs and missteps will be forgotten before the next presenter is finished introducing their home institution. What you want to be remembered is your science.

Are these rules definitive? Of course not. They are simply my subjective thoughts on how to have a good presentation mindset. Adapt them as you will. Take what works for your and ignore the rest. The key is to be comfortable and confident with your presentation style. Keep it up, and you will eventually be the keynote or plenary speaker, and then all bets are off. Just make sure to wear nice shoes.

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