

# Make your point

**Engaging presentations can land jobs and increase visibility. Kendall Powell learns the art of a good talk.**



**A** nightmare unfolded as Shawn Hayes presented his graduate work at the annual meeting of the Federation of American Societies for Experimental Biology. His computer crashed just as he was starting his 12-minute talk, requiring a 4-minute reboot. With one hand Hayes tried to find what was wrong with his laptop, while with the other he gestured to the audience as he explained figures from his first slides.

“I was able to stay on track because I had memorized my talk,” says Hayes, now an adjunct professor of physiology at the University of California, Davis. “All the big people in my field were going to be there so I wanted to know it backwards and forwards.” The preparation paid off — he recovered smoothly from what could have been a talk-ending glitch, and subsequently received several offers of postdoc posts.

Giving forethought to the structure and delivery of a presentation can make the difference between a memorable display of your work and a dud. Experienced faculty members say that a talk reflects on the scientist who delivers it, not just his or her science.

Each seminar, job talk or poster presentation is a chance to impress future employers, collaborators and even tenure and grant reviewers. Practical advice for creating the best impression may seem obvious, but it’s worth remembering that even small *faux pas* can derail intriguing data. To prevent those embarrassments — and to turn talks into career opportunities — consider who is in your audience, what story you’re trying to tell, what devices, such as analogies or examples, you’ll need, and what style of delivery you will use. And to make all these elements fall into place, practise.

Tailor the presentation to fit the technical level of those listening. Erica Ollmann Saphire, an assistant professor at the Scripps Research Institute in La Jolla, California, suggests that speakers should put

themselves in the listener’s shoes. This will also help them to place key points in the most logical order.

Ollmann Saphire studies protein structures from the Ebola and dengue viruses to try to determine what makes these haemorrhagic fevers so pathogenic. She often talks to mixed audiences of immunologists and X-ray crystallographers. In these circumstances she uses really obvious slides such as “Now to immunology”, to mark transitions in the subject matter of her talks.

Even subtle courtesies can help get the audience on your side. David Botstein, director of the Lewis-Sigler Institute for Integrative Genomics at Princeton University in New Jersey, recently delivered a seminar at an American Association for the Advancement of Science meeting in Washington DC on interpreting microarray data. He knew that some of his large audience would be colour blind, so for each microarray slide, where gene expression is usually illustrated in red and green, he provided a duplicate in blue and yellow.

## SPINNING A SCIENTIFIC TALE

Once you know your topic and audience, remind yourself that a talk is a narrative — not just a collection of facts and figures. “When people go to a seminar, they want a story,” says Robert Anholt, a neuroscientist at North Carolina State University in Raleigh. Just as a good tale usually has one moral, he says, a good talk should have one clear, take-home message. Young researchers often make the mistake of trying to cover several projects in a 15-minute talk, he adds.

Using a quote or tagline sentence conveys the overall point. In one memorable departmental seminar, Anholt recalls, a speaker used a quote to illustrate the importance of regulatory gene sequences: “If you give me the coding sequences of a chimp and the regulatory sequences of a mouse, I’ll give you a mouse.”

For overall structure, Anholt urges, engage your



**Speaking out: (from far left) Robert Anholt, Michael De Robertis and Erica Ollmann Saphire all agree preparation is the key to a successful science talk.**

audience with the ‘zoom in, zoom out’ strategy. Start with the broad implications of a scientific problem and move in from there to talk about specific data. At the end, at least briefly, zoom back out. Michael De Robertis, an astronomer at York University in Toronto, Canada, recommends placing data into context, showing how they have advanced the field and suggesting what challenges remain.

Once you’ve found your central message, you can plan elegant ways to drive it home. The best speakers use word pictures that illuminate, rather than duplicate, their slides. Botstein, who says that teaching undergraduates greatly improves speaking skills, used an effective analogy in a recent talk on microarray data patterns. “If you are the Duke of Wellington at Waterloo looking through your spyglass at 10,000 soldiers, are you going to see one soldier making a flanking manoeuvre or are you going to see a whole regiment?” The phrase “regiments of genes” used later in the talk drove home his pattern-finding point.

Judith Campisi used another explanatory strategy during a symposium at the 2004 American Society of Cell Biology meeting in Washington DC to explain the concept of ‘antagonistic pleiotropy’. As the term related to her work on cell senescence and cancer, she explained: “In other words, what’s good for you when you are young might be bad for you when you are old.”

Once you’ve found the right words, remember that it’s not just what you say, it’s how you say it, both in terms of verbal and non-verbal traits. Your delivery can leave lasting impressions, both good and bad. The right amount of enthusiasm conveys that a speaker thinks the science “is worth doing, likes doing it, and would like doing it in your lab or department, too”, De Robertis says. Alternatively, he says, “no matter who you are, if you go over the time limit, the majority of the people in the room start tensing up and erasing the talk from their memory”.

Exceeding the allotted time is the number one cardinal sin of delivering a talk (see ‘Top 5 worst speaker sins’, right). It signals a failure to plan and it tramples on the goodwill of the audience. Another no-no is using a rising intonation in your voice, turning every sentence into a question.

Visual aids should be free of distracting colour

schemes or animation. As you describe them, do not turn towards the screen and away from the microphone. Dress appropriately — it says that you care about your presentation and are honoured to speak. For clip-on microphones, it is best to have a collared shirt and a pocket for the battery pack. Taking care of these details eliminates unnecessary disruptions.

No matter how much anyone attends to the elements of a talk, it is all for naught if you don’t practise. Tom Perkins, a biophysicist at the University of Colorado, Boulder, offers an incentive to take preparation and practice seriously. “All talks are potentially job talks,” he says. ■

**Kendall Powell is a freelance science writer in Broomfield, Colorado.**

## TOP 5 WORST SPEAKER SINS

1

### Exceeding the time limit

“I feel like I’m being held prisoner by a person who couldn’t prioritize.” — Erica Ollmann Saphire, Scripps Research Institute

2

### An out of control laser pointer

“The audience’s eyes are tracking the spot whizzing around the screen.” — Tom Perkins, University of Colorado, Boulder

3

### The rising intonation? Okay? See what I mean?

“This drives me up the wall.” — Robert Anholt, North Carolina State University

4

### Speaking too quietly, too fast or incoherently

“If I can’t hear them it is just a waste of my time and I’m going to walk out.” — Shawn Hayes, University of California, Davis

5

### Being ambushed by an overeager poster presenter

“It’s like being a good waiter: a poster presenter should be there when you need them, but not be intrusive.” — Robert Anholt, North Carolina State University