



# Speakers' Corner

## ***In the First Few Blinks of an Eye: The Basics of Engaging Presentations***

■ John W. Bandler and Erin M. Kiley

*In the first few blinks of an eye after you stumble onto the stage, or make an opening stab at your slides or poster, most of your audience has likely made up its mind—and you may not even have “started” your presentation. Perhaps the projector isn’t working, or your microphone has a mind of its own, or you apologize for not finding the room in time.*



IMAGE LICENSED BY GRAPHIC STOCK

**T**hese words open the abstract of John Bandler’s recent seminars to promote effective technical presentations [1]; they attest to the importance of first impressions. First impressions are formed in many ways, including confirmation bias [2] and the halo effect [3]; the appearance of trust, authenticity, and etiquette; the

speaker’s respect for the audience; and more. And that’s just the beginning of the presentation.

In this column we outline some of the issues we face when preparing for and then delivering a presentation, and we provide hints at the barriers we would like to dismantle on the road to engaging, accessible, and compelling presentations.

### **The Problem**

How often have you heard concerns at major conferences about presentations being supported by too few slides, too few equations, too few graphs, too few words, or too few tables or concerns that presentations were too short or

too easily understood? Or that too many setbacks were reported, too many references given, too many acknowledgments made, too many citations listed, too many well-chosen examples given, or too many relevant questions asked?

It is likely that your answer is hardly ever, or not at all.

Typical presentations feature slides or posters crammed with text that is hard to read

and digest, small images, dense tables, lengthy equations, and detailed flow diagrams. The speaker’s visual material is often inadequately acknowledged, and his or her oral delivery rushed in an inaudible monotone. Speakers regularly run out of whatever time they are allotted, whether three minutes, 20 minutes, or 50 minutes.

Prestigious technical conferences are traditionally built around expert- and niche-level original, state-of-the-art presentations by leaders and researchers in their respective fields. The upside is the promise of the latest in research and technical achievement. The downside is endless talks that fail to engage even the specialists in the audience, let

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alone the wider technical and nontechnical community.

Why is this, and what can be done about it?

## Talks and Speeches Versus Manuscripts

While the preparation of technical manuscripts [4] is outside the scope of this article, it is worth highlighting some differences relating to first impressions. In a live talk, first impressions manifest themselves at the start of a presentation: how it ends isn't yet clear. In reviewing manuscripts, first impressions can be formed by quickly scanning the entire document, reading the conclusions, and glancing at acknowledgments and references. Citations in technical presentations, if placed at the end, are frequently rushed through as the speaker runs out of time. It is, therefore, crucial for speakers not only to provide self-contained citations at key points but also to craft the presentation so that, at any point, audience members are easily able to orient themselves in the narrative.

## Static Posters

Traditional static posters should preferably not be simply a set of slides shoehorned into the available space but well-crafted compositions in their own right. Like manuscripts, posters can be scanned in all directions, so first impressions are influenced, for example, by citations that normally appear at the end. Hiding garbage and clutter, not eating or fidgeting, inviting people to your space, making eye contact, and never abandoning your poster are good habits to adopt.

## Beyond the First Impression

Bandler suggests [1] that after an audience's initial impressions, the rest of your performance serves as confirmation of your audience's bias and first impressions. And besides you, your slides and your posters have their own agenda, subplot or series of subplots that reflect you, your expertise, your authenticity, your passion for your subject, and your attention to

issues like relevance, context, clarity, citations, acknowledgments, respect, consistency of fonts, spelling, those excruciating details in your visual aids that you can't bear to leave out, and even their artistic composition. At your poster, you have just moments to pitch the importance of your work. As for your oral presentation, remember that your audience may have already sat through several presentations that day.

Bandler stresses the need for "gaining trust; the importance of clarity, citation, and acknowledgment; the importance of 'story' and admitting setbacks; those crucial first few seconds, and your first few slides; and how to identify and avoid potential traps and pitfalls."

If a talk about academic, technical, or scientific matters is to be made engaging, it is essential to consider these points, some of which become heightened when the audience is composed of nonspecialists. Considerations like utilizing story and admitting setback are often neglected, but these can be highly effective in keeping any audience engaged.

## MTT-S Initiatives

The IEEE Microwave Theory and Techniques Society (MTT-S) International Microwave Symposium (IMS) has, in the past, made programming available for participants interested in developing their presentation techniques. For example, at IMS2016, Bandler delivered a talk, "Effective Presentations" [5], as part of a videotaped course "Preparing and Presenting Papers for MTT-S Journals and Conferences" [4] organized by George Ponchak, former editor of *IEEE Transactions on Microwave Theory and Techniques*. Ponchak and Bandler were invited to address these topics at the inaugural IEEE MTT-S Latin America Microwave Conference in December 2016.

In terms of career development, for example, in 2014, invited by Women in Microwaves, Bandler spoke both at IEEE Radio and Wireless Week and at the IMS with the presentation

"Awareness, Creativity, and Creative Thinking" [6].

## The Three-Minute Thesis Competition as a Solution

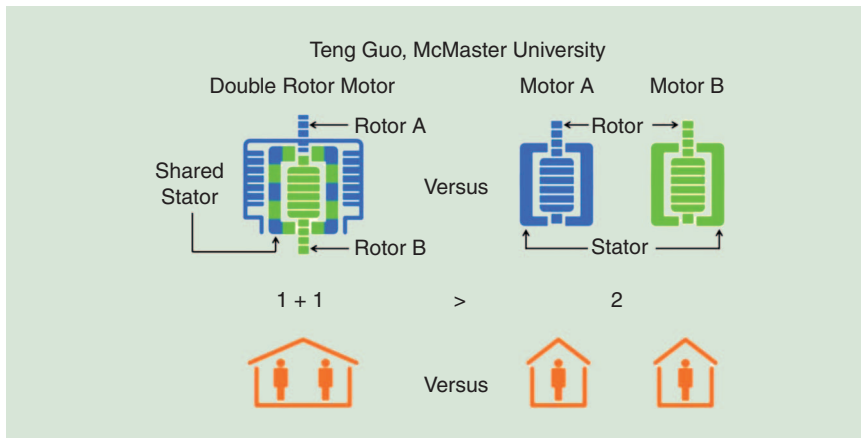
A good starting point to understanding the nature and relevance of engaging presentations is the Three-Minute Thesis (3MT) competition, developed by the University of Queensland, Australia, in 2008 [7]. This popular competition "cultivates students' academic, presentation, and research communication skills. The competition supports their capacity to effectively explain their research in three minutes, in a language appropriate to a nonspecialist audience."

In three minutes or fewer using only one static slide and no other props, contestants deliver their presentations to a panel of nonspecialist judges. These judges rank the contestants based on how engaging, accessible, and compelling they made their presentations. A candidate who goes over the allotted time is disqualified.

View, for example, the video of the presentation "Double Rotor Motor" by McMaster University engineering student Teng Guo [8]. Notice Teng Guo's use of appearance, gesture, articulation, clarity, theatricality, metaphor, drama, storytelling, enthusiasm, subject overview, avoidance of jargon, repetition of essential and unavoidable words, and emphasis on why a general audience should care about his research [8]. His single static slide, which stayed on the screen for nearly three minutes, is reproduced in Figure 1. It suggests that  $1 + 1 > 2$ . Metaphors like this are essential to communicate effectively with a general audience, but they clearly need to be used with caution in terms of scientific veracity.

In this way, 3MT has shown itself to be an excellent vehicle for encouraging presentation skills to engage general audiences. Since its inception, the competition has grown to include more than 350 universities across more than 18 countries worldwide.

The idea of cultivating the ability to present original research in a succinct and engaging way has also been



**Figure 1.** A single static slide for the 3MT presentation by Teng Guo [8].

extended to the Falling Walls Lab [9], which offers academics and professionals the opportunity to present their innovative ideas, research projects, and social initiatives.

### Why Participating in the 3MT Is Beneficial to Your Career

Annie Arnold, a chemistry student and the 2015 winner of the 3MT competition at Carnegie Mellon University, explains the importance of the competition both in developing her presentation skills and in giving her the opportunity to discuss the impact of her research [10]. “When I tell people that I study chemistry, the most common response is a strange look accompanied by how much they disliked the subject when they were forced to take it,” Arnold explains. “The 3MT competition gave me the opportunity to not only share how exciting my research is, but also to convey that chemistry is fun, exciting, and has the capability to really help people.”

Developing the skills necessary to distill highly complex, technical material into a form accessible to the nonspecialist has become popular worldwide for students at universities that have adopted the 3MT competition [7]. Once such skills—namely, clarity of communication without oversimplifying or resorting to jargon and the ability to engage a diverse audience with authenticity and enthusiasm—are mastered, they are transferable to virtually any professional career path and become lifetime assets for career advancement of any professional.

Participants in the 3MT competition have only one slide that remains visible to the nonspecialist audience for three minutes. While accurate citation and acknowledgment are more critical to specialist and expert audiences, ethical considerations need to be strictly exercised when directing claims of a scientific or technological breakthrough to nonspecialist competition judges and audiences, who lack immediately verifiable, arm’s-length authenticity.

### A New Initiative

The inaugural IMS2017 3MT competition [11], proposed by Bandler and Kiley [12], is designed to stimulate interest in the wide range of applications of microwave technology. Such information should help renew the public’s interest in microwaves as a transformative technology that is rewarding both to those who study it and to those whose daily lives benefit from incorporation of scientific developments in consumer products.

Goals include developing a publicly available suite of videotaped, award-winning presentations by passionate and articulate younger members of the MTT-S, persuading general audiences of the importance to humanity of microwaves and related technical fields, and showcasing the human element of individual members of our Society.

When papers are submitted to IMS, authors can check a box to have their contribution considered for the 3MT

competition in addition to their regular oral or interactive forum presentation, subject to the presenter being a student or a young professional, as defined by the IEEE, and being willing to adhere to the other 3MT rules and guidelines, published on the IMS2017 web page [11].

Prior to the event, the IMS2017 blog [13] will also be updated to provide information to presenters about what makes an effective 3MT presentation.

Cash prizes will be given to the top three presentations as ranked by the nonspecialist judges, as well as to the People’s Choice winner as chosen by the audience.

For information, see the IMS2017 3MT home page [11], or send a message to the organizers [14].

### A Final Word

There is a scattered array of useful material on disparate aspects of crafting engaging technical presentations, from the use of psychology to theatrical staging, from subtext to artistic composition, from authenticity to slide overload. Yet even good speakers are often unclear as to how exactly they manage to engage their audiences beyond certain obvious traits like empathy, good humor, clarity of articulation, and enthusiasm for their subject. Elements such as when or when not to read your slides to your audience, the importance of prompt citation and acknowledgment of the work of others, the importance of not letting your host define you by mispronouncing your name, the abuse of logos, the difficulty in controlling your subtext, the art and craft of composition—the look—of your slides, your optimal stance on the stage, the advantages of admitting setbacks, and the art of persuasion—many of these skills are hard to master.

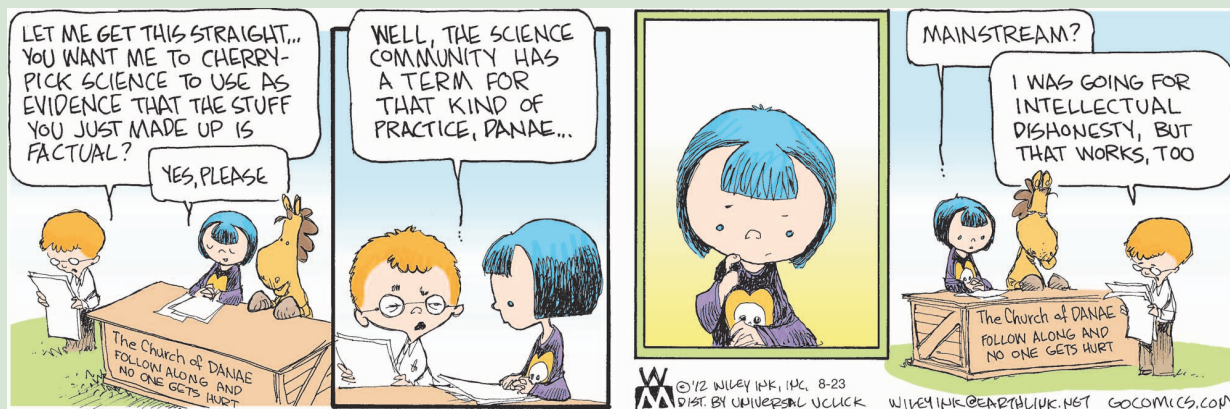
But, given time and effort, they can be understood, and they should be practiced.

### Acknowledgments

Many talented people have influenced the shape and evolution of this work. Among them, we are delighted to mention

*(continued on page 120)*

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## New Products (continued from page 110)

and quality in an ultraminiature 0805 chip size especially designed for the smaller and more crowded PCBs that next-generation wireless electronics are based on. Samples of the initial release have been well received, and plans to extend this range of high-performance filters to cover the 1.8–3.5-GHz range are already in the works.”

Measuring just  $2.03 \times 1.55 \times 1.02$  mm ( $1 \times w \times h \pm 0.10$  mm), the new low-profile lowpass 2.9-GHz filter is rated for 4-W

continuous power and operating and storage temperatures spanning  $-40^\circ\text{C}$  to  $+100^\circ\text{C}$ . Featuring characteristic impedance of  $50 \Omega$  and nickel/lead-free-solder (Sn100)-coated terminations compatible with automatic soldering technologies (reflow, wave soldering, vapor phase, and manual), the Restriction of Hazardous Substances-compliant filters are 100% tested for electrical parameters and both visual and mechanical characteristics and are shipped on tape and reel.

For more information about AVX's new 2.9-GHz 0805 high-performance lowpass ITF filter, visit <http://www.avx.com/products/filters/lp0805-high-performance-filter> to access the product data sheet, associated catalogs, part number information, and modeling software. For all other inquiries, visit [www.avx.com](http://www.avx.com), call +1 864 967 2150, or write to 1 AVX Boulevard, Fountain Inn, SC 29644.



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