Ideally, an international conference provides a meeting place where the participants can present and discuss new ideas, research topics, and results. Exposure to state-of-the-art work should help to identify interesting research tracks for today and define new directions for the future. While attendees should get an introduction to high-quality research, conferences should give presenters the opportunity to get feedback through extensive discussions.

In practice, however, many large international conferences stray far from this ideal. A combination of economic factors and the pressing need for publication have forced many conference organizers to focus on quantity rather than quality.

**OUTPUT OVER INPUT**

In practice, many conference participants attend not because they wish to hear what others have to say, but because of their pressing need to publish. The published output is more important to these attendees than the factual input. For most, submitting a paper to a conference offers the simplest and easiest way to get another reference on their résumés. To get the most out of their limited travel funds, some participants submit several papers to the same conference.

Further, to receive reimbursement for traveling expenses, most institutions require that conference delegates give a presentation. Presenting thus becomes a requirement for participating. Although this seems to be a logical requirement on a micro scale, such a practice can have serious consequences on a macro scale.

**Call for papers**

The conference organizers’ thinking probably goes something like this: Last year’s conference had more than 1,000 participants, and we’re expected to break that record this year. However, factors outside our control could affect attendance: terrorism, war, viruses, spectacular aircraft accidents, an economical downturn, and so on. So, we’ll be lucky if this year’s conference actually draws only the same number of delegates as last year’s, let alone more.

Often, even these modest expectations can’t be met. Given that most institutions’ funding-only-if-presenting policy results in few nonspeaker attendees, the best option is to accept as many papers as possible. An accepted speaker will likely show up, especially if the organizers require a prepaid registration fee to include the paper in the final program and proceedings.

Thus, delegates and organizers share a common interest in the conference attracting as many presenters as possible, with the drawback that a high acceptance rate might give the impression of a low-quality conference. To avoid this, organizers can heavily market the call for papers, which lets them reject a reasonable percentage of submissions. This incurs additional costs, however, which makes having many speakers even more important.

**Bottom-line concerns are forcing conference organizers to push quantity over quality.**

Conferences also can cater to other parameters of quality. For example, if abstract-based reviewing is frowned upon, conference organizers can easily require the submission of full papers, thereby maintaining the refereeing ritual. It may also be wise to host the conference at an attractive site so that participants can combine work and play.

**Conference organization**

Suppose we now have 1,500 participants, 1,200 of whom attend specifically to present a paper. Since a conference is usually three days long, about 1,200 effective conference minutes overall, we can offer only one minute per speaker. To solve this problem, the conference introduces parallel tracks. Giving each speaker a minimum of 15 minutes, with five more minutes added for discussions and administrative overhead, requires as many as 20 parallel tracks—assuming the organizers keep plenary sessions to a minimum.

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Thus, participants must choose from at least 2,012 individual tracks when building their individualized conference programs. Although such a degree of personalization could be ideal for modern manufacturing, it strays far from the basic rationale of international meetings between researchers. Where will the discussions, summations, directions for future research, and sense of community come from?

**PRESENTATIONS**

Conference organizers review papers, but not presentations, which limits the value of sitting in on international conferences. First and foremost, the problem of language arises. Many delegates have little familiarity with English, the most common conference language. For example, during one conference I attended, an American had to translate a question posed by an Italian to a Finnish speaker from Italian-English to English. One Japanese delegate gave his entire presentation in flawless English, then answered the first question from the audience with the startling revelation that he could not speak the language at all.

Language barriers aside, few understand the difficulty of giving a short presentation. Winston Churchill once said that he needed 10 minutes to prepare a three-hour presentation, but 10 hours to prepare a 10-minute one. Instead of concentrating on ideas and results and referring to other sources for details, most presenters deliver condensed versions of much longer presentations with little time for describing the important parts. Thus, the audience may derive little value from each session. The conference format amplifies these problems. A 15-minute presentation leaves no time to clarify, ask questions, or let the speaker find the right words.

Thus does the superficiality of the reviewing process become apparent. Although the average conference offers many good presentations based on quality research, many other papers have obviously been rushed to print. This opens the door for embarrassing situations in which the presenter

- cannot define or explain a central term used in the paper’s title,
- does not know seminal papers within the area,
- presents as a prototype a product that has been well-known for many years, or
- makes simple errors in statistics or formulas during the presentation.

To err is human, but a thorough reviewing process avoids these situations. The audience usually does not comment on these mistakes, however—perhaps because they have come to accept that the idea is to present, not to learn anything from the presentation.

**LENGTH CONSTRAINTS**

Length provides the conference paper’s most constraining feature. Limited to a maximum of five pages, all presenters submit papers exactly that length. Some authors can say a lot in five pages, but given that organizers expect the conference paper to follow the form of a standard research paper, there is little space for elaborating on ideas. With a title, the contributors’ names—in some cases more than 10—and their affiliations, an abstract, introduction, background, references, and so on, the five-page limit leaves room only for a superficial presentation of research ideas. For some authors, this could be an advantage, but for those with original, often complex ideas, this limited space may not be enough.

**Proceedings**

Assuming the conference publishes 1,200 papers, each five pages long, the proceedings will fill 6,000 pages. In
Universities and institutions the world over should let their non-presenting researchers participate at conferences to listen, acquire a background for their own research, discuss ideas, find collaborators, and become inspired. Doing so would make it more likely that more of us can someday achieve the distinction of being conference speakers who present our own interesting results, which will be of use to other researchers and perhaps to society in general.

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Today, organizers of large international conferences must follow the rules that conference economics impose. Maintaining quality requires changing the funding-only-if-presenting policy.

Training ground

Some researchers assert that many large conferences, especially those that accept a high percentage of submitted papers, act as a training ground for young researchers. However, in that case, feedback is important and should consist of more than the one or two polite questions a modern conference schedule allows.

Although training budding researchers is desirable, ensuring that a conference provides high-quality content must remain the first priority. To enhance the quality of presentations, conference organizers can

- allow time for discussions after each paper,
- add more plenary sessions,
- limit parallelism to natural sub-themes, and
- review the presentation as well as the paper—perhaps based on a short video or, at least, slides.

Unfortunately, most of these qualitative aspects violate the quantitative imperative. At most, organizers can accept around 100 papers for a three-day conference. For the conference to act as an international meeting point, we must hope that other participants—those without a presentation to give—will attend and can get the funding to do so.