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Engineering Conferences Fill Many Needs

Gary Breed
Editorial Director



The recent WAMICON and upcoming Radio & Wireless Week conferences reminded me that engineering conferences, large and small, are an essential part of the learning process, with many different areas of value to their participants. This is a subject I comment on regularly, since I am a strong supporter of the stimulating person-to-person interactions that take place whenever a group of engineers gathers in the same place.

New technology—Conferences often provide the venue for important new technology announcements and descriptions. For companies, conferences usually have media representatives on hand who will report on this news. For researchers, the live presentation allows them to immediately gauge the response of their peers through questions and follow-up discussion.

Ongoing research—The continual march forward in technologies is chronicled in published papers, many of which are orally presented at appropriate conferences. The ever-growing repository of technical papers not only keeps us abreast of current work, it serves as a history of technology. Each step forward, however modest, should be documented with conference or transactions papers.

Academic and professional development—Conferences also provide a means for demonstrating personal development. Often, the name of a well-respected technology leader will draw an audience, simply because of his or her reputation for doing interesting, creative work, then presenting it clearly and thoroughly. Because the academic world requires publication of work, it is essential that graduate students be involved in conferences.

Beyond these “high-level” benefits, conference participation has other valuable aspects. One of the most important is networking among your colleagues at other companies, government agencies and educational institutions. The formality of a paper is important, but I always judge a conference by the informal discussions of the reasons behind the work, the problems encountered, and the ideas yet to be explored or developed. At the very least, they fill in details in each person’s understanding of the subject. Or, the exposure to other viewpoints can be the seeds from which dramatic new advances arise.

The process of writing the paper itself is extremely important. The peer-review process requires that the author be clear when defining the scope of the topic, complete and accurate in its discussion, and logical in drawing conclusions from the work. And of course, the work itself must represent a significant contribution in either basic understanding or methodology.

Writing a paper is similar to preparing to teach the subject. First, you must understand the subject thoroughly. Next, the information must be organized carefully, building upon fundamentals that will be understood by the majority of the audience, and presenting the development path to the new information that is the heart of the paper. This rigorous process is essential for high level technical papers.

There are other venues for more

conversational discussions. Nearly all conferences have invited papers, plenary session speakers and banquet speakers that may discuss technical topics in a way that is very different than a typical paper.

Outside of conferences, magazines like this one include a wide range of writing approaches. We publish some articles that are at the technical level of conference and transactions papers, but we also publish tutorials that are like a day in the classroom, as well as broad-brush overviews that are similar to discussions among engineering and corporate management about trends in technology.

When I attend a conference, I imagine myself in the role of engineering management. A look at the subjects shows what type of work is being pursued, where the work is happening, and by whom.

Attending the presentations quick-

ly tells us whether the work is primarily a classroom exercise or represents more serious research.

There is also an opportunity to identify talented writers and speakers—communicating ideas clearly is often as important as having the idea in the first place!

I think the most interesting part of a conference is considering the question, “What’s next?” I often use this as the beginning of a conversation with the author of a paper I found timely and/or particularly interesting.

There are always a few papers that stand out because they ask the same question in their concluding comments. Sure, it’s fine to review the topic of the paper and summarize the results, but it’s a lot more interesting to look ahead to the future!