

## New Directions for *CACM*?

Much has changed since the 1980s when the current format of *Communications of the ACM* was cast. What should be the mission of ACM's flagship publication in the 21st century?

**W**hen I was running for ACM President, I asked people for feedback about the Association. The consistent advice I received was to do something about pre-college computing education and about *Communications of the ACM*. As you may recall, ACM launched the Computer Science Teachers Association in January 2005. Its goals include improving the quality of pre-college education and helping recruit a wider range of students to our field. CSTA is off to a great start [1].

I asked many people inside and outside ACM about *CACM* to try to understand why some people dislike it so much, how many people feel that way, and what we could do to make it better. Before I get into what I learned, it will be helpful to review a little ACM history.

When ACM was founded nearly 60 years ago, it was primarily an organization of academic researchers, for they were the ones building and using computers. This base naturally evolved to include researchers in industry. In the 1970s, ACM leadership decided to try to broaden the base to include practitioners as well as researchers. ACM leaders in the 1980s concluded that practitioners

were dissatisfied with *CACM*, and so its mission was changed from a prestigious publication of research into a computing magazine inspired by *American Scientist*. The format change started in the late 1980s, and was completed by the early 1990s. As part of the format change, the *CACM* advisory board became less active. The current format of short articles, many columns, and heavy graphics remain to this day.

To unravel the concerns with *CACM*, I tried to understand what people thought about *Queue*, ACM's new magazine for young practitioners. As I mentioned in an earlier column [2], *Queue* is driven by an advisory board that feels ownership for all the content of each issue of the magazine. They pick the topics, invite the lead authors, find interesting interviewees and interviewees, and so on. The success or failure of *Queue* reflects on them personally. Many people like *Queue* a lot, but some can take it or leave it. *Queue* currently has about 40,000 subscribers, including about a third of ACM's membership.

This view of *Queue* is quite a contrast to the mixed feelings about *CACM*. Scholars in Management Information Systems view *CACM* as their top publication outlet [4]. Alas, this group set up their

### **ACM must present a compelling value proposition for individuals to join or stay members of ACM. The means our flagship publication must be the best it can possibly be.**

own society in the 1990s, so they may not be a significant fraction of ACM membership. While readership surveys of ACM members suggest that about half like or are satisfied with *CACM*, I've spoken to many others who no longer read the magazine. They complain about the shortage of papers covering topics of interest to them, the shallow nature of the articles that are on interesting topics, and a U.S. bias. Some have even dropped ACM membership because of their dissatisfaction with *CACM*. Thus, people tend to love or be neutral about *Queue*, but either like or loathe *CACM*.

This dichotomy is a problem for ACM, for many people equate ACM membership with a subscription to *CACM*. ACM is much more than that [3], but that's the perception of many. While there are many reasons for changes in the size of ACM membership, I strongly believe that *CACM* will need to become attractive to more people for membership to grow. Whether the change in *CACM* is relevant or not, note that ACM membership did shrink from a high of 64,400 in 1990 to 52,400 in 2002. Membership has rebounded recently. While there is no "silver bullet" when it comes to growing membership, I believe it was important to introduce new products and services that really add value to ACM membership, such as *Queue*, the professional development courses, and online books. The bottom line is that ACM must present a compelling value proposition for individuals to join or stay members of ACM. The means our flagship publication must be the best it can possibly be.

I thought that perhaps this problem was fundamental, in that no society that caters to both researchers and practitioners in the U.S. and abroad can have a single publication that most members love. In talking to people in other societies, I see that the problem can be solved. Although there are few

examples, the most interesting example is *Science* and its rival *Nature*.

*Science* is the flagship publication of the American Association for the Advancement of Science (AAAS). It publishes significant research from all fields of science, plus reviews and analyses of current research and science policy. It has a wide readership—130,000 members, with 40% outside the U.S.—while being perhaps the most prestigious science publication. Scientists count the number of papers published in *Science* separately from all other peer-reviewed journals. Everyone at an institution mentions when you've got a paper in the current edition of *Science*, and authors with an article on the cover of *Science* walk a few feet off the ground when the issue appears.


How does it serve both masters? I believe the format of the magazine is part of the secret. It starts with general scientific news ("News of the Week"), which is followed by two-page articles in more depth that are commissioned by *Science* ("News Focus"). In my view, the "Perspectives" section that comes next is critical to the success of the magazine. These are one-page overviews of the technical reports in the back of the magazine. Often written by leaders of the field, they explain the significance of the results to the general audience and place results in context.

To satisfy the high demand, the reports in the back appear in a significantly smaller font than in the front. *Science* is also balancing the number and type of papers that appear in print versus at its Web site. Most reports are tied to a "Perspective" or to one of the "News" articles, so general readers can get the big picture while scientists can read the unfiltered, in-depth results. Reports are labeled by their field, so researchers commonly jump to the back to read the articles in their field, and then read the editorial matter. Since *Science* covers all scientific topics,

only a small fraction of readers understand any single report, but most find many articles in the front that they enjoy. I started subscribing to *Science* to try to understand its magic, and I nearly always understand and enjoy the front matter.

Inspired by the success of *Queue* and *Science*, I formed a task force to study new directions for *CACM* in the 21st century in light of *Queue*, the many ACM journals and Transactions, the ACM Digital Library, and the World Wide Web. Members include Fran Allen, Cheri Pancake, Gul Agha, Matt Blaze, Michael Cusumano, Soha Hassoun, and Vincent Shen, and it is co-chaired by Stu Feldman and Mary Jane Irwin. Feldman is current ACM Vice-President and Irwin is a past Vice-President and current co-chair of the Publications Board.

They are looking to other publications and societies for good ideas, and checking which *CACM* columns have a large following. (Alas, the “President’s Letter” isn’t one of them.) Among the ideas they are considering is starting parallel versions of the monthly *Queue* advisory board dinners—perhaps in the U.S., Asia, and Europe—to give *CACM* a broader perspective. They will also test market the proposed changes before proceeding. Ideally, nearly everyone would love the new *CACM*, but failing that goal, nearly everyone would love *Queue* or the new *CACM*.

If you have comments or suggestions about *CACM* now and in the future, please send email to Stuart Feldman (sif@us.ibm.com) or Mary Jane Irwin (mji@cse.psu.edu) or to me (pattrsn@cs.berkeley.edu). 

#### REFERENCES

1. Patterson, D.A. Restoring the popularity of computer science. *Commun. ACM* 48, 9 (Sept. 2005), 25–28.
2. Patterson, D.A. Do you *Queue*? *Commun. ACM* 48, 6 (June 2005), 27–28.
3. Patterson, D.A. Why join ACM? *Commun. ACM* 48, 2 (Feb. 2005), 14.
4. Rainer, R.K. Jr. and Miller, M.D. Examining differences across journal rankings. *Commun. ACM* 48, 2 (Feb. 2005), 91–94.

---

DAVID A. PATTERSON (pattrsn@cs.berkeley.edu) is president of ACM and the Pardee Professor of Computer Science at the University of California at Berkeley.

## The 2006 Editorial Calendar for *Communications*

### FEBRUARY

Computer Forensics

### MARCH

Self-Managed Systems and Services

### APRIL

Supporting Exploratory Search

### MAY

Two Decades of Language/Action

### JUNE

Hacking

### JULY

Services Science

### AUGUST

Music Information Retrieval

### SEPTEMBER

Security in Highly Dynamic Systems

### OCTOBER

Flexible and Distributed Software  
Development Processes

### NOVEMBER

Entertainment Networking

### DECEMBER

Software Product Line