

Farewell, CS&E; Fare Well, CSE

The time has come for me to say good-bye as editor-in-chief of this magazine. I was privileged to see the birth of the magazine in 1993 as a result of the forward-looking action of the IEEE Computer Society and its



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Technical Segment Committee on Computational Science and Engineering. The committee was chaired by John Riganati, and I was a member. I have enjoyed seeing *IEEE CS&E* develop in the first two years of its existence.

On the pages of this magazine, the definition of the interdisciplinary field of computational science and engineering (CSE) has been debated, and invited and contributed articles have covered its various aspects. I am happy to say that as a new magazine, *CS&E* has almost always been published on time, and now even has a modest queue of articles

waiting to be printed. This has been due mainly to the magazine's distinguished editorial board, which has managed to keep the magazine supplied with a steady stream of high-quality solicited and contributed manuscripts.

One thing that distinguishes our magazine from other publications dealing with CSE is the extraordinary effort spent by the professional editorial and production staff—and by the authors, at the staff's urging—to make the various articles readable by a wide spectrum of researchers, educators, and practitioners concerned with CSE, without losing sight of the depth and significance of the contributions. This has allowed the magazine to elucidate the value of those computational techniques that cut across the various disciplines in science and engineering.

Since the magazine first appeared as a special issue of *Computer*, the number of academic programs in this interdisciplinary field has multiplied. These programs do not adopt the same definition of the field, and often have different goals based primarily on the local conditions of the respective universities. It still remains to be seen, how-

ever, whether such programs will be allowed to continue in some of these academic institutions at a time of fiscal stringency. CSF flourishes when walls separating classical disciplines are removed or made permeable. In fact, such a recommendation was made in a recent report by the National Academy of Sciences that calls for the redesigning of graduate education in the United States. Unfortunately, entrenched vested interests make it difficult for some academic institutions to replace arcane programs in science and/or engineering colleges, that ceased to be effective decades ago, by genuine CSE programs.

It is vital that CSF, which deals with the computational process itself, be recognized as an essential vehicle for advancing science and engineering disciplines in the coming century, together with the classical vehicles of theory and experiments. The interdisciplinary nature of CSE requires the design of a core curriculum that covers its basic components (see "From the Editor-in-Chief" in the Spring '95 issue of *CS&E*). These courses have to be designed to bring the interdisciplinary components to the forefront. So-called "CSE programs" that merely collect a number of previously existing courses from different departments will not be effective, and need not exist. Genuine CSE programs, even those with dedicated faculty members, will have a difficult time maturing in an academic environment without an equally committed and enlightened higher administration.

I would like to take this opportunity to thank all the members of the editorial board, those who are retiring and those who will continue with the magazine. I also thank the IEEE Computer Society and its leadership for making the job of the EIC an enjoyable, albeit an extremely busy, one. Finally, I would like to welcome the new editor-in-chief, George Cybenko, a friend and previous colleague at the University of Illinois with whom I worked closely for several years on the Cedar project. It is through this interdisciplinary project and my interactions with George Cybenko, Edward Davidson, Kyle Gallivan, Stratis Gallopoulos, David Kuck, and Duncan Lawrie that most of my perceptions, and biases, regarding CSF have developed. I believe that George will provide the necessary vision and leadership that will guide the magazine for years to come. ●

—Ahmed Sameh