

From the Editor-in-Chief

I am stepping into the position of *IEEE Expert* Editor-in-Chief at a very promising time for both the magazine and the field of applied artificial intelligence. The magazine itself has gotten off to a great start: In four years, it has achieved a worldwide status as an authoritative voice on all aspects of applied AI. The fact that *IEEE Expert* will now be published bimonthly — a 50-percent increase in frequency of issues, and an annual increase of 210 editorial pages — is simply another testimony to its success in fulfilling what its readers want.

I must acknowledge the visionary role of founding EIC David Pessel, who conceived the magazine and nurtured it through its first four years. The contributions of Managing Editor Henry Ayling in putting the magazine together cover an astonishing variety of skills — extracting clear and punchy writing from authors, obtaining contributions for various interesting departments, and artistically designing the magazine's graphics, images, and layout are simply a few of the tasks that our staff manages to perform gracefully before each issue is put to sleep. It is a matter of pride for all of us that *IEEE Expert*, in its short history, has been nominated for a number of awards in the magazine publishing business.

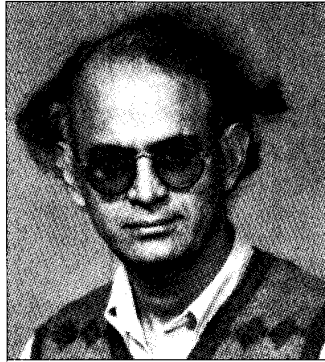
Of course, David and Henry have had to depend upon our authors — who have submitted informative articles on widely various topics — and on our Editorial Board members, who have solicited articles and managed their review. As became abundantly evident to me on a recent international trip, *IEEE Expert* enjoys great authoritativeness around the world. This is at least partly due to the fact that our top-quality Editorial Board — representing research and user communities worldwide — oversees the thorough review of each article by at least three referees. Finally, our readers have been most forthcoming with commentary regarding what they liked and disliked,

and with suggestions for what they'd like to see. Such input greatly helps us in responding to reader interests. Thus, the magazine is a "going concern."

The field of applied AI is also undergoing important changes. For one thing, the area of knowledge-based systems is maturing from a theoretical perspective as well as in its impact on industry. Our views of what is possible, what is hard, and what requires good new ideas are changing as a result of those thousands of pioneers who have taken the first generation of ideas and shaped them into a technology. I hope to help our readership absorb the lessons of the first serious decade of applied AI. The potential of this technology is vast, but the ideas that will make it happen are correspondingly hard. One difficulty with AI has been that, because of the user community's rapid growth, only very simple ideas have percolated out to users. Increasing the user community's sophistication and maturity to keep pace with AI in general is one of my goals. And *IEEE Expert* provides the perfect communications tool.

These are exciting times for people in our business. With no end in sight to the phenomenally high rate of hardware advances — coupled with the new ideas on problem solving, perception, memory, comprehension, learning, and robotics that are being proposed in AI and cognitive science — we are simply at the threshold of enormous international experimentation in understanding intelligence and putting it to work as technology. We want *IEEE Expert* to be at the center of this great exploration.

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Worth Knowing

The contents

In addition to our six feature articles, book reviews, and product announcements, this issue contains News columns by Lance Eliot (AI conferences), Christopher Locke (rapid technology transfer), and Tom Schwartz (Japan's LIFE). And our Focus Section combines a two-part JPL report by Ware Myers. This issue also launches Open Linc — a brand-new section dedicated to airing reader viewpoints and observations on all relevant topics. Our first Open Line contributor is USC's Bart Kosko, and his subject matter is most challenging — recent scientific and mathematical advances in support of God. Bart's column gives some indication of why he (and Lotfi Zadeh) were recently featured in a *Time Magazine* piece on fuzzy reasoning.

The cover

How do myths, facts, and legends differ? Can fact become legend? Can ostensibly historical events become myths — or are myths merely unfounded, false notions? How about Jim Jones? How about Abraham Lincoln? How about Ozymandias?

Poetry readers may recognize that last name, Greek for Ramses II, and the title of a sonnet by Shelley that meditates on the irony of human history — on the diminution of facts (and artifacts) to legends, myths and, finally, to dust. Our cover photograph was shot in the Temple of Ramses II, who ruled Egypt 33 centuries ago. As Shelley wrote, "And on the [shattered] pedestal these words appear: 'My name is Ozymandias, King of Kings: Look on my works, ye Mighty, and despair!'"