



# Computer in 2004

Doris L. Carver, Louisiana State University

**W**elcome to the January 2004 issue of *Computer*. My vision for *Computer* in 2004 is that it will continue to serve as a leading information resource in the lifelong learning process of our readers. We remain committed to informing the computing community of the latest advances in research, technology, and applications, as well as providing timely information about professional issues, career trends, news, practices, and perspectives on computing-related topics.

## COMPUTER'S COVERAGE

Increasing computational capabilities and decreasing computation costs combine to escalate the demand for complex applications that have far-reaching impacts on society, including new frontiers in medical diagnosis and treatment, weather forecasting, space exploration, e-commerce, and education. Advances in a diverse set of computing areas, such as ubiquitous computing, data integration, self-adaptive systems, and multimodal sensors, are fundamental to realizing these new frontiers. As the computing field continues to thrive and change to meet new challenges, *Computer* continues to evolve to provide coverage of these changes and challenges.

One of these challenges is providing coverage of all aspects of computing that our readers find meaningful. We initiate the process for determining our primary topics with a lengthy session at our summer editorial board meet-



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ing. We use the results of that session as the framework for developing our editorial calendar for the following year. Potential topics are assessed from numerous perspectives, including timeliness, breadth of coverage, and relevance to our readers.

I would like to clarify the role that the editorial calendar plays in our editorial process. In particular, I want to inform potential authors that we welcome submissions on any computing-related topic.

Our editorial calendar does not imply that the topics listed there are the only areas in which we wish to publish. Special issues focus on a specific topic while others are theme issues. Special issues are guest edited by experts in the specific area, and theme issues include multiple articles on the theme topic but are not the result of a specific call.

In both special and theme issues, we also include articles on other topics. So I invite and encourage potential authors to submit your manuscripts on all computing-related topics to *Computer*.

## Reviewing 2003

Looking back at 2003, our topic coverage was diverse. A feature article in our January 2003 Outlook issue provided coverage of NASA's research in advanced computing technologies to help usher in a new area of autonomous space exploration. This issue also included an article describing NSF's TeraGrid computing infrastructure to support collaborative computational science and access to distributed resources. Another feature article reviewed advances in integrated circuits and MEMS that are enabling neurobiologists to link computer circuitry to neural cells in live animals and study the basis of animal behavior and intelligence.

Other issues published during the year highlighted topics such as commercial workloads, pervasive computing, agile software, piracy and privacy, nanocomputing, handheld computing, Web services, safety-critical systems, and power-aware computing.

## Looking ahead to 2004

In this January Outlook issue we continue our tradition of publishing articles that address advances with near-term possibilities.

Topics covered in this issue include the International Technology Roadmap for Semiconductors' assessment of the challenges awaiting the semiconductor industry, especially as mixed-signal and application-driven technologies come to the fore. Another feature article reviews NASA's software reliability efforts at JPL and the Ames Research Center and its ambitious systems and software architecture for next-generation unmanned spacecraft. Other articles describe an innovative initiative for providing inexpensive wireless connectivity for rural populations in developing nations, provide an assessment of global IT employment prospects in 2004, and discuss a novel system for combining optical holograms with interactive computer graphics. Two provocative essays consider the future of software engineering and ponder the end of science.

Our 2004 planned coverage includes, but is not limited to, computers and the aging; adaptive software and hardware; Internet security; next-generation search; sensor networks; software architectures; and Internet data centers.

Our column and department offerings will continue to include At Random, The Profession, Communications, Embedded Computing, Entertainment Computing, IT Systems Perspectives, Invisible Computing, Security, Standards, Web Technologies, News, Products, and Bookshelf. We also introduce a new column, 32 & 16, that looks back on computing technology and the profession through the lens of *Computer*.

If you have suggestions for other topics, please e-mail them to me at dcarver@lsu.edu.

## COMPUTER AS A MEMBERSHIP MAGAZINE

*Computer* is the primary communication path between the IEEE Computer Society and its members. Through *Computer*, we regularly inform you about initiatives and events that are happening at the Society, such as the Distance Learning Campus ([www.computer.org/distancelearning/](http://www.computer.org/distancelearning/)); the Certified Software Development Professional program ([www.computer.org/certification/](http://www.computer.org/certification/)); the Computer Society International Design Competition ([www.computper.org/csdc](http://www.computper.org/csdc)); the distinguished recipients of the Computer Society awards; new IEEE Fellows; and volunteer opportunities such as editor-in-chief positions for Society publications. We plan to expand coverage of Society initiatives of interest to our readers in 2004.

## EDITORIAL BOARD CHANGES FOR 2004

I would like to express my gratitude to the editorial board members whose term of service ended in 2003. My sincere appreciation to Gary Robinson for his service as editor of the Standards column, to Jerzy Rozenblit for his con-

tributions as a member of the Advisory Panel, and to Bill Mangione-Smith for his service as area editor for high-performance computing. Gary, Bill, and Jerzy have provided valuable time, insights, vision, and guidance to the magazine.

**We welcome your input and diligently strive to use it as part of our ongoing assessment process.**

We welcomed two new members to the Board during 2003. Daniel E. Cooke joined the Board as an area editor for software. Dan, a professor and chairman of the Computer Science Department of Texas Tech University, previously served as the Program Manager for NASA's National Strategic Initiative for Intelligent Systems. Savitha Srinivasan assumed the role of area editor for multimedia. Savitha is the manager of content protection at the IBM Almaden Research Center, where she defines new research areas in content protection and is actively involved with content protection standards activities.

In 2004, Alfred Weaver is moving from his role as area editor of networking and e-commerce to serve on the Advisory Panel. I thank Alf for his dedication as an area editor and look forward to working with him as a member of the panel. My thanks to Dan, Savitha, and Alf for their willingness to contribute their expertise to *Computer*.

## AN INVITATION

I invite you to contribute to *Computer* through any of the following methods:

- Submit your manuscript for consideration for publication at [cs-ieee-manuscriptcentral.com](http://cs-ieee-manuscriptcentral.com). This site, which contains complete author information and submission details, provides a totally

electronic process for manuscript submission and processing.

- Indicate your interest in serving as a reviewer by sending an e-mail message that contains your vitae to [computer-ma@computer.org](mailto:computer-ma@computer.org).
- Propose a special issue by contacting Bill Schilit, Special Issues Editor, at [bill.schilit@intel.com](mailto:bill.schilit@intel.com).
- Provide feedback, including suggestions for topics, by sending an e-mail message to [dcarver@lsu.edu](mailto:dcarver@lsu.edu).
- Visit our Web site at [www.computer.org/computer](http://www.computer.org/computer), where you will find a dynamic, value-added extension of the magazine.

I look forward to your participation in 2004!

## APPRECIATION

I wish to thank the members of the editorial board and editorial staff for their continued commitment and dedication to achieving *Computer's* goals. They play a crucial role in making *Computer* happen. The volunteer and staff partnership that drives *Computer* creates a dynamic, fulfilling environment in which to serve as EIC.

To our authors and reviewers, please accept my deepest gratitude for your contributions. *Computer's* value and success lie with authors who submit their work to us and to reviewers who help ensure that our standards are maintained. The result of our excellent authors and reviewers is that our acceptance rate for articles is approximately 25 percent.

Finally, thank you to our readers. We welcome your input and diligently strive to use it as part of our ongoing assessment process.

I hope you enjoy this January Outlook issue. ■

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