

# Top Researchers Win Technical Achievement Award

The IEEE Computer Society sponsors an active and prestigious awards program as part of its mission to promote the free exchange of ideas among computer professionals around the world and to recognize its members for their outstanding accomplishments. The awards honor technical achievements as well as service to the computer profession and to the Society.



computer science and engineering fields.

Hsinchun Chen, of the University of Arizona, was chosen “for innovative contributions to digital libraries, medical informatics, and intelligence and security informatics.”

Michael T. Goodrich, of the University of California, Irvine, was cited “for outstanding contributions to the design of parallel and distributed algorithms for fundamental combinatorial and

## TECHNICAL ACHIEVEMENT AWARD

Each year, the IEEE Computer Society selects several individuals to receive its Technical Achievement Award. This award recognizes outstanding and innovative contributions to the fields of computer and information science and engineering or computer technology, usually within the past 10, and not more than 15, years. Each winner receives a certificate and a \$2,000 honorarium.

### 2006 Winners

The following four award recipients were selected for their contributions to the technical advancement of the

geometric problems.”

Shashi Shekhar, of the University of Minnesota, gained honors “for technical achievements in spatial databases, spatial data mining, and geographic information systems.”

Roberto Tamassia, of Brown University, was recognized “for pioneering the field of graph drawing and for outstanding contributions to the design of graph and geometric algorithms.”

For more information about these and other IEEE Computer Society awards, including nomination forms and guidelines, visit [www.computer.org/awards](http://www.computer.org/awards). ■

## Society Debuts Career-Development Initiative

The IEEE Computer Society has launched a career site intended to help professionals in the computing field navigate the rapid technology advances, globalization, shifting demographics, and new business approaches that will dramatically change the workforce over the next decade.

Build Your Career ([www.computer.org/buildyourcareer](http://www.computer.org/buildyourcareer)) is designed to give technologists practical, affordable guidance to benefit their job prospects. The site is envisioned as a one-stop shop for those who are either entering the field, looking for a new job, or interested in advancing with their current employer. Users can get quickly up to speed on a broad spectrum of topics with TechSets, article packages that provide comprehensive knowledge on subjects in the fields of software and programming, security and privacy, networking, and wireless, Web, and management technologies.

TechSets are compiled by such well-known Computer Society experts as Cisco engineering manager Wes Chou, MITRE Corp.'s Susan (Kathy) Land, CSDP, the Society's 2008 president-elect; Pennsylvania State University software engineering professor Phillip Laplante, an author and editor of 22 books; and University of British Columbia professor Philippe Kruchten, an expert on the Rational Unified Process.

Besides career-related technical articles, the site features online technical courses, training aids, jobs boards, career news, and columns that address current industry issues. In partnership with the Computer Society, Harvard Business School Publishing is making its *Harvard Business Review* articles, Harvard Business School Press books, and other content available to Build Your Career visitors.

# IEEE Names 2008 Fellows

The IEEE Board of Directors recently conferred the title of Fellow upon 295 senior members of the IEEE, including 62 Computer Society members, who have demonstrated outstanding achievement in engineering. The original 1912 constitution of the American Institute of Electrical Engineers, a forerunner of the IEEE, outlined a procedure for naming Fellows. Today, Fellow status recognizes a person who has established an extraordinary record of achievements in any of the IEEE fields of interest.

The honorees are selected from among the more than

350,000 IEEE members. Since IEEE policy limits the number of Fellows selected each year to no more than 0.10 percent of the IEEE's total voting membership, this year's cohort of 295 new Fellows is an especially select group of outstanding individuals.

The names below include both new Fellows who are Computer Society members and other IEEE members who the Computer Society recommended for elevation to Fellow status. All are now IEEE Fellows, effective 1 January. An accompanying citation details the accomplishments of each new Fellow.

## A

**Ishfaq Ahmad**, University of Texas at Arlington, for contributions to scheduling techniques in parallel and distributed computing systems.

**Rajeev Alur**, University of Pennsylvania, for contributions to automata, logics, and verification techniques for real-time and hybrid systems.

**Cleon Anderson**, L-3 Communications, for contributions to servo control systems.

## B

**Victor (Paramvir) Bahl**, Microsoft Research, for contributions to the design of wireless networks and systems and leadership in mobile computing and communications.

**John Bay**, Air Force Research Laboratory, for leadership in model-based design and integration methods for large-scale embedded systems.

**Bernd Becker**, University of Freiburg, for contributions to the development of algorithms and data structures for testing and verification of integrated circuits.

**Andrew Blake**, Microsoft, for contributions to the foundations of segmentation and tracking, and innovation in vision applications.

**Gunilla Borgefors**, Swedish University, for contributions to discrete geometry and image analysis.

**Ronald Brachman**, Yahoo!, for leadership in knowledge representation and reasoning in computer science and artificial intelligence.

**Joe Brewer**, IEEE, for contributions to nonvolatile memory integrated circuit technology and digital signal processor architecture.

**Michael Bushnell**, Rutgers University, for contributions to testing methods for digital and mixed-signal VLSI circuits.

## C

**Manuel Castro**, Spanish University for Distance Education, for contributions to distance learning in electrical and computer engineering education.

**Krishnendu Chakrabarty**, Duke University, for contributions to the testing of core-based system-on-chip integrated circuits.

**Peter Chen**, University of Michigan, for contributions to fault-tolerant storage systems.

**George Chiu**, IBM, for leadership in supercomputer technology.

**Jen-Yao Chung**, IBM, for contributions to the application of electronic business and Web-based information systems.

**Pau-Choo Chung**, National Cheng Kung University, for contributions to neural network models for biomedical image analyses.

**Peter Corke**, Commonwealth Scientific Industrial Research Organization, for contributions to visual-based robot control and its applications to field robotics.

## D

**Nikil Dutt**, University of California, Irvine, for contributions to architecture description languages for the design and exploration of customized processors.

## G

**Guang Gao**, University of Delaware, for contributions to architecture and compiler technology of parallel computers.

**Daniel Gamota**, Motorola, for leadership in nanotechnology-based printed electronic products.

**Michael Gschwind**, IBM, for contributions to high-performance computer architecture and compilation technology.

**Rajiv Gupta**, University of Arizona, for contributions to computer architecture and optimizing compilers.

## H

**Dong Ha**, Virginia Polytechnic Institute and State University, for leadership in VLSI design and test.

**Kazuo Hagimoto**, Nippon Telegraph and Telephone, for contributions to very large capacity optical transmission systems.

**Jennifer Hou**, University of Illinois at Urbana-Champaign, for contributions to protocol design and analysis of wireless communications networks.

## J

**Ravi Jain**, Google, for contributions to wireless networks and standard programmable interfaces for converged networks.

**Christian Jensen**, Aalborg University, for contributions to temporal, spatiotemporal, and mobile data management.

**Christian Jutten**, University Joseph Fourier, for contributions in source separation and independent component analysis.

## K

**Hisao Kameda**, University of Tsukuba, for contributions to performance-optimization methods for information processing systems.



## L

**Phillip Laplante**, Pennsylvania State University, for leadership in engineering education and for contributions to software and systems education.

**Jorg Liebeherr**, University of Toronto, for contributions to the design and analysis of computer networks and their protocols.

**Steven Low**, California Institute of Technology, for contributions to Internet congestion control.

## M

**Benoit Macq**, Université Catholique de Louvain, for contributions to visual communication technologies.

**Vijay Madiseti**, Georgia Institute of Technology, for contributions to embedded computing systems.

**Roy Maxion**, Carnegie Mellon University, for contributions to real-time monitoring and analysis of computer systems for trend analysis, fault prediction, and anomaly detection.

**Samiha Mourad**, Santa Clara University, for contributions to fault modeling in digital circuits and systems.

## N

**Klara Nahrstedt**, University of Illinois at Urbana-Champaign, for contributions to end-to-end, quality-of-service management of multimedia systems.

**Chandrasekhar Narayanaswami**, IBM, for contributions to pervasive computing systems.

**Sani Nassif**, IBM, for contributions to semiconductor manufacturing processes.

**David Notkin**, University of Washington, for contributions to software engineering and software evolution research.

## O

**Oyekunle Olukotun**, Stanford University, for contributions to multiprocessors on a chip and multi-threaded processor design.

## P

**Dhabaleswar Panda**, Ohio State University, for contributions to

high-performance and scalable communication in parallel and high-end computing systems.

**Karen Panetta**, Tufts University, for leadership in engineering education and curriculum development to attract, retain, and advance women in engineering

**Fernando Pereira**, Instituto Superior Técnico, for contributions to object-based digital video representation technologies and standards.

## R

**Sanguthevar Rajasekaran**, University of Connecticut, for contributions to sequential, parallel, and randomized algorithms and to bioinformatics.

**Raghu Ramakrishnan**, Yahoo!, for contributions to deductive databases, data mining, and query optimization.

**Nageswara Rao**, Oak Ridge National Laboratory, for contributions to algorithms for reliable communication in distributed sensor networks.

**Ronny Ronen**, Intel, for leadership in microarchitecture, low-power design, and compilers for high-performance superscalar microprocessors.

## S

**Yvon Savaria**, University of Montreal, for contributions to the development of long interconnect VLSI signal-processing architectures.

**Jyuo-Min Shyu**, Industrial Technology Research Institute, for leadership in the microelectronics industry.

**Mani Srivastava**, University of California, Los Angeles, for contributions to energy-aware wireless communications and sensor networking.

**Ivan Stojmenovic**, University of Ottawa, for contributions to data communication algorithms and protocols for wireless sensor and ad hoc networks.

## T

**Sergios Theodoridis**, University of Athens, for contributions to the design of adaptive signal processing systems.

**Anand Tripathi**, University of Minnesota, for contributions to distributed system software architectures and programming frameworks

## U

**Lalita Udpa**, Michigan State University, for contributions to development of forward and inverse electromagnetic nondestructive evaluation methodologies.

## V

**Paulo Verissimo**, University of Lisbon, for contributions to dependable and secure distributed computing.

## W

**Laung-Terng Wang**, SynTest Technologies, for leadership in practical design for test of integrated circuits.

**Jacob White**, Massachusetts Institute of Technology, for contributions to simulation tools for RF circuits, electrical interconnects, and micromachined devices.

**Ja-Ling Wu**, National Taiwan University, for contributions to image and video analysis, coding, digital watermarking, and rights management.

## Y

**Rajendra Yavatkar**, Intel, for contributions to network protocols and multiprocessor systems-on-a-chip for wire-speed packet processing.

**Hoi-Jun Yoo**, Korea Advanced Institute of Science and Technology, for contributions to low-power and high-speed VLSI design.

## Z

**Alexander Zelinsky**, Commonwealth Scientific Industrial Research Organization, for contributions to vision-based robotics.

**F**or more information on IEEE Fellows, see the related story on IEEE Fellow nominations in this issue of *Computer*, or visit [www.ieee.org/fellows](http://www.ieee.org/fellows). ■

Join the IEEE Computer Society  
[www.computer.org](http://www.computer.org)

## Obituary: James P. Anderson Jr.

On 18 November 2007, noted computer pioneer James P. Anderson, Jr., 77, died at his home in Pennsylvania. Anderson first introduced the notion of intrusion detection in 1980 with his seminal paper, "Computer Security Threat Monitoring and Surveillance" (US Air Force, 1972). Widely known as "The Anderson Report," that paper defined the research agenda in information security for well over a decade.

After graduating from Pennsylvania State University with a degree in meteorology, Anderson served in the US Navy as a gunnery officer and as a radio officer. Later, he worked at Univac under noted computer pioneer John Mauchly. Anderson subsequently joined Burroughs, where he explored issues of compilation, paral-

lel computing, and computer security. At Burroughs, he received a patent for one of the earliest multiprocessor systems, the D-825. From the late 1960s until 2007, Anderson maintained an independent consulting firm.

In 1968, he served on the Defense Science Board Task Force on Computer Security, which produced the "Ware Report," defining the technical challenges of computer security. In 1990, Anderson received the prestigious NIST/NCSC National Computer Systems Security Award. He also figured prominently in the development of more than 200 other seminal standards, policies, and reports including Blacker and the Trusted Computer System Evaluation Criteria or "Orange Book" (US National Security Agency, 1983.)

## IEEE/ACM TCBB Seeks Editor in Chief for 2009-2010 Term

The IEEE Computer Society seeks applicants for the position of editor in chief of *IEEE/ACM Transactions on Computational Biology and Bioinformatics* for a two-year term starting 1 January 2009.

### REQUIREMENTS AND QUALIFICATIONS

Candidates for any Computer Society editor in chief position should possess a good understanding of industry, academic, and government aspects of the specific publication's field. In addition, candidates must demonstrate the managerial skills necessary to process manuscripts through the editorial cycle in a timely fashion. An editor in chief must be able to attract respected experts to his or her editorial board.

Applicants, with clear employer support, must possess recognized expertise in the computer science and engineering community, have editorial experience, and be able to work effectively with technical and publishing professionals.

### CANDIDATE SEARCH

Prospective candidates are asked to provide, by 15 March, a complete curriculum vitae, a brief plan for the publication's future, and a letter of support from their institution or employer. Materials should be sent as PDF files to staff liaison Alicia Stickley at [astickley@computer.org](mailto:astickley@computer.org).

### NEW TRANSACTIONS EDITORS IN CHIEF

Two other IEEE Computer Society transactions have editors in chief who are beginning an initial two-year term in 2008.

Wolfgang Nejdl, of the University of Hannover, now directs the recently launched *IEEE Transactions on Learning Technologies*. Mani Srivastava, of the University of California, Los Angeles, now heads *IEEE Transactions on Mobile Computing*. ■

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# IEEE Fellow Nominations Due 1 March

André Ivanov, Chair, 2008 Computer Society Fellows Committee

The IEEE and its member societies cooperate each year to select a small group of outstanding professionals for recognition as IEEE Fellows. A senior IEEE member who has achieved distinction in his or her field can be named an IEEE Fellow only after being nominated for the honor. All such nominations undergo rigorous review before the IEEE Board of Governors votes to bestow the prestigious rank of Fellow.

For information regarding nominating a candidate for IEEE Fellow recognition, visit [www.ieee.org/fellows](http://www.ieee.org/fellows). The Electronic Fellow Nomination Process is detailed at [www.ieee.org/web/membership/fellows/index.html](http://www.ieee.org/web/membership/fellows/index.html).

The deadline for Fellow nominations is **1 March**. In the event that the online nomination process is unsuitable, paper nomination materials can be obtained from the IEEE Fellow Committee, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331; voice +1 732 562 3840; fax +1 732 981 9019. Hard copies can also be obtained by request from [fellow-kit@ieee.org](mailto:fellow-kit@ieee.org). Nominators may not submit the forms via fax or email.

## Nominees

A nominee must be a senior member at the time of nomination and must have been an IEEE member at any level for the previous five years. This includes exchange, student, associate, senior, honorary, and life membership levels. It excludes affiliates, however, because this category does not comprise IEEE members. The five-year requirement must be satisfied at the date of election, 1 January 2009; thus, a nominee must have been a member at any level continuously since 31 December 2003. The five-year membership requirement may be waived in the case of nominees in Regions 8, 9, and 10. Fellows are never named posthumously.

## Nominators

A nominator need not be an IEEE member. However, nominators cannot be IEEE staff or members of the IEEE Board of Directors, the Fellows Committee, the technical society, or council evaluation committee.

## Preparing a nomination

Essential to a successful nomination is a concise account of a nominee's accomplishments, with emphasis on the most significant contribution. The nominator should identify the IEEE society or council that can best evaluate the nominee's work and must send the nomination form to the point of contact for that group.

Careful preparation is important. Endorsements from IEEE entities such as sections, chapters, and committees, and from non-IEEE entities and non-IEEE individuals are optional but might be useful when these entities or

individuals are in the best position to provide credible statements.

## References

The nominator should select referrers who are familiar with the nominee's contributions and can provide insights into these achievements. For nominees in the US and Canada, references must be from IEEE Fellows; outside the US and Canada, senior members can provide references if necessary. References cannot come from IEEE staff or from members of the IEEE Board of Directors, the Fellows Committee, a technical society, or a council evaluation committee. While a minimum of five references are needed, it is strongly recommended that the maximum of eight be sought.

## Evaluation of nominees

In evaluating nominations, the IEEE Fellow Committee considers the following criteria:

- individual contributions as a research engineer or scientist, application engineer or practitioner, technical leader, or educator;
- technical evaluation by an IEEE society or council;
- tangible and verifiable evidence of technical accomplishment, such as technical publications, patents, reports, published product descriptions or services, as listed on the nomination form;
- confidential opinions of referrers who can attest to the nominee's work;
- IEEE and non-IEEE professional activities, including awards, services, and offices held, committee memberships, and the like; and
- total years in the profession.

## Resubmission of nominations

Typically, less than half of the nominations each year are successful. Therefore, even highly qualified individuals might not succeed the first time. Because reconsideration of a nominee is not automatic, nominators are encouraged to update and resubmit nominations for unsuccessful candidates. To resubmit these materials, ensure that the nomination forms are current. The deadline for resubmission is the same as for new nominations.

## Nomination deadline

The IEEE Fellow Committee must receive 2008 nomination forms by **1 March**. The staff secretary, Pamela Kemper ([pkemper@computer.org](mailto:pkemper@computer.org)), must also receive at least five Fellow-grade reference letters directly from the referrers by that date. The deadline will be strictly enforced. ■

## Computer Society Board Announces 2008 Meetings and Election Schedule

The IEEE Computer Society has released its official 2008 administrative schedule. Highlights include the annual Board of Governors administrative meeting series that serves as a fixed point around which many other deadlines are scheduled. In a move to control costs, Computer Society administrative meetings have been scaled back from three weeks to one week during the year. The balance of administrative deliberations throughout the year will take place via teleconference.

The 2008 calendar includes significant dates in the 2008 election and governance cycle. The 6 October election will name the 2009 first and second vice presidents; the 2009 president-elect, who will serve as president in 2010; and seven members of the Board of Governors, who serve three-year terms. Officers selected in the 2008 elections begin their terms on 1 January 2009.

### Nominations

The Nominations Committee must receive recommendations for candidates in this year's election no later than **4 April**. Recommendations must be accompanied by the nominee's biographical information, which should include facts about past and present participation in Society activities. Nomination materials should be sent to Michael Williams, Nominations Committee Chair, IEEE Computer Society, 1730 Massachusetts Ave. NW, Washington, DC 20036-1992; voice +1 202 371 0101; fax +1 202 296 6896; m.williams@computer.org.

### 2008 Schedule

Member participation and volunteer involvement are welcomed throughout the year. The following calendar lists dates of note for both Computer Society and IEEE election materials in 2008.

- **8 February:** Board of Governors teleconference
- **4 April:** Recommendations from membership for

board/officer nominees due to Nominations Committee

- **18 April:** Nominations Committee slate of officer and board candidates due to Board of Governors
- **6 May:** Last day for board/officer petition candidates to be submitted to Board secretary
- **12-16 May:** First Board of Governors meeting, Rio Hotel, Las Vegas
- **16 May:** Periodical page budgets, prices, and board/officer candidates approved at Board of Governors meeting, Rio Hotel, Las Vegas
- **13 June:** Last day for 2009 IEEE Division V Delegate/Director-Elect petition candidates to be submitted to IEEE
- **27 June:** Board-selected candidate statements, biographies, and pictures due in the Publications Office
- **July:** Board-approved slate and call for petition candidates published in *Computer*
- **31 July:** Last day for members to submit board/officer petition candidates (with statements, biographies, and pictures)
- **August:** Schedule and call for 2010 IEEE Division VIII Delegate-Director-Elect recommendations to Nominations Committee
- **4 August:** Executive Committee teleconference
- **5 August:** Board of Governors teleconference
- **5 August:** Ballots mailed
- **September:** Candidate statements/biographies published in *Computer*
- **6 October:** Ballots returned and tabulated
- **21 October:** Nominations Committee makes recommendations to Board of Governors for 2010 IEEE Division VIII Delegate-Director-Elect
- **17-18 November:** Second Board of Governors meeting, Hyatt Regency, New Brunswick, New Jersey
- **18 November:** 2010 IEEE Division VIII Delegate/Director-Elect slate approved at Board of Governors meeting
- **December:** Election results published in *Computer*

## REACH HIGHER

Advancing in the IEEE Computer Society can elevate your standing in the profession.

- ✓ Application to Senior-grade membership recognizes ten years or more of professional expertise
- ✓ Nomination to Fellow-grade membership recognizes exemplary accomplishments in computer engineering

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