



Society Names Cray and Fernbach Award Winners

The IEEE Computer Society recently presented two of its most prestigious awards in a special ceremony at SC07, an international conference dedicated to advances in high-performance computing, networking storage, and analysis, in Reno, Nevada. The Seymour Cray Award recognizes innovative contributions to high-performance computer systems. The Sidney Fernbach Memorial Award honors innovative uses of high-performance computing in problem solving.



BATCHER RECEIVES CRAY AWARD

Kenneth Batcher has been named the recipient of the 2007 Seymour Cray Computer Science & Engineering Award. Batcher, a professor of computer science at Ohio's Kent State University, was recognized for fundamental theoretical and practical contributions to massively parallel computation, which involve distributing jobs across thousands of processors. His work has involved interconnection networks, parallel sorting algorithms, and pioneering designs of the STARAN and MPP computers.

Kent State's Kenneth Batcher earned recognition for his work on massively parallel computation.

Batcher is renowned for his early work on sorting networks. He developed the odd-even merge sort and "bitonic sort," and showed how each could be implemented in hardware. His bitonic sort, often called the "Batcher

sort," is one of the classic algorithms in the field. He also designed the architectures of the STARAN (in 1972) and the MPP (in 1983), two of the earliest single-instruction, multiple-data parallel computers. These designs were among the first commercially successful massively parallel computers. Batcher also contributed to the development of the associative computing field, including computational models, algorithms, and languages.

Established in 1998, the Seymour Cray award recognizes innovative contributions to high-performance computing systems that best exemplify the creative spirit of Seymour Cray. The award includes a crystal memento, illuminated certificate, and \$10,000 honorarium.

KEYES WINS FERNBACH AWARD

David Keyes of Columbia University recently received the 2007 Sidney Fernbach Award. Keyes, the Fu Foundation Professor of Applied Physics and Applied Mathematics at Columbia University, was recognized for his outstanding contributions to the development of scalable numerical algorithms for the solution of nonlinear partial differential equations and exceptional leadership in high-performance computation.



Columbia University's David Keyes is a leading force in high-performance computation.

Keyes is world-renowned for contributions to Newton-Krylov-Schwarz methods for the efficient solution of nonlinear partial dif-

Apply for Merwin Student Scholarships by 31 May

The 2008-2009 Richard E. Merwin Student Scholarship recognizes student leaders in the Computer Society who show promise in their academic and professional efforts. The scholarship, named in honor of a past president of the Society, is available to active members of IEEE Computer Society student branches. The Society awards up to 10 annual scholarships of \$4,000 each, paid in four quarterly installments.

Winners of the Merwin Scholarship serve as IEEE Computer Society student ambassadors for the particular IEEE region to which they belong. Student ambassadors collect and disseminate information to Computer Society student chapters in their own regions and serve as a liaison to the Chapters Activities

Board. To be eligible, applicants must maintain a minimum 2.5 GPA as a full-time junior, senior, or graduate student in a computer science, computer engineering, or electrical engineering program.

Other awards and scholarships offered to students by the Computer Society include the Lance Stafford Larson best paper contest and the Upsilon Pi Epsilon/Computer Society Award for Academic excellence, which the IEEE Computer Society and the Upsilon Pi Epsilon international honor society jointly administer.

For more information about Computer Society student scholarships and awards, visit www.computer.org/students/schlrshp.htm. Merwin Scholarship applications are due by **31 May**.

ferential equations on high-performance computers. These methods are at the heart of many applications, including aerodynamics, radiation transport, acoustics, and magnetohydrodynamics. They have been incorporated into open mathematical software libraries that have enabled hundreds of users to make efficient use of parallel computers, from small clusters to the world's largest computers. He also has played a major role in the high-performance computing community through his professional service and leadership of the DOE SciDAC TOPS center.

The Sidney Fernbach Memorial Award honors innovative uses of high-performance computing in problem solving. This award was established in 1992 in memory of

Sidney Fernbach, a pioneer in the development and application of high-performance computers for the solution of large computational problems. A certificate and \$2,000 are awarded for innovative approaches and outstanding contributions in the application of high-performance computers.

More information on the presentation is available at <http://sc07.supercomp.org/?pg=awards.html>.

Computer Society awards recognize technical achievements, contributions to engineering education, and service to the Society or the profession. Nominations for the Cray and Fernbach awards are due by **1 July**. To nominate a candidate for any IEEE Computer Society award, visit <http://awards.computer.org/ana>. ■

Society Announces 2008 CSDP Testing Opportunities

More than 60 years ago, the IEEE Computer Society established itself as the leading association for computing professionals worldwide. Today there are nearly 90,000 members in more than 140 countries. The Computer Society seeks to provide unparalleled technical information and services to the world's computing professionals. The Society recognizes that a recent explosion in technology advancements continues to drive an explosion in certification programs—many directed to computer professionals as well as to millions of technicians. After more than three years of extensive research in the field among professionals, employers and their customers, IEEE Computer Society volunteer leaders moved to develop and offer the Certified Software Development Professional program.

CERTIFICATION EXAM

Veteran software engineering professionals have seen the handful of certifications offered in the 1960s grow to thousands offered today by software companies and independent organizations. As the art, science, engineering, and technology of software advanced into the 1990s, the need for a professional credential of the highest value and distinction became evident.

The three critical components of professional certification include exam-based testing demonstrating mastery of a body of knowledge; extensive experience base in the performance of the work or profession being certified; and continuing professional education in areas related to the body of knowledge.

The CSDP is the only professional certification that has all of these critical components, plus the support of the IEEE, which has more than 300,000 members worldwide, and it is the only certification for comput-

ing professionals that carries the brand, reputation, and standards of the IEEE Computer Society.

2008 CSDP REQUIREMENTS AND TESTING DATES

Candidates applying for certification as a CSDP must have a baccalaureate or equivalent university degree, at least two years of software engineering experience within the four-year period prior to the application, and a minimum of 9,000 hours of software engineering experience in at least six of the 11 knowledge areas listed below.

- Business Practices and Engineering
- Economics
- Software Requirements
- Software Design
- Software Construction
- Software Testing
- Software Maintenance
- Software Configuration Management
- Software Engineering Management
- Software Engineering Process
- Software Engineering Tools and Methods
- Software Quality

Test-takers can choose from two testing windows in 2008. Applications to test, including proof of experience and all applicable fees, are due by **27 June** for test dates between 14 January and 11 July, and by **1 December** for dates between 18 August and 12 December.

FEES

The CSDP examination registration fee has two components: a \$100 application fee, which is nonrefundable

and nontransferable, and an examination fee.

IEEE or IEEE Computer Society members pay the application fee of \$100 and an examination fee of \$350 for a total of \$450. In addition to the \$100 application fee, nonmembers pay an examination fee of \$450, for a total of \$550. Applications submitted without full payment will not be processed for the current testing window.

SOCIETY SUPPORTS EDUCATION AND CERTIFICATION

The CSDP examination was developed in collaboration with Thomson Prometric. The program is part of the Society's larger effort to provide education and certi-

fication services for the software engineering community. Throughout the year, in support of the certification program, the Computer Society offers education programs covering the principal content areas of the examination.

To learn more about IEEE Computer Society professional certification programs, visit www2.computer.org/portal/web/certification. ■

Editor: Bob Ward, Computer, 10662 Los Vaqueros Circle, PO Box 3014, Los Alamitos, CA 90720-1314; bnward@computer.org

Computer Society and IEEE Foundation Fund Cash Prizes at Intel Science Fair

Each year, both the IEEE Computer Society and the IEEE Foundation sponsor special awards for outstanding high school students at the Intel International Science and Engineering Fair, which takes place this year 11-17 May in Atlanta. ISEF moves to Reno, Nevada, in 2009.

The Computer Society typically sponsors six to eight individual and team awards at ISEF that range from \$300 to \$700. Winners of Computer Society awards receive a framed certificate and a one-year free subscription to an IEEE Computer Society magazine of their choice. Computer will publish a group photo of the winners in an upcoming issue.

Intel ISEF 2008, presented by Agilent Technologies, provides an opportunity for outstanding

young scientists from around the globe to share ideas and display cutting-edge science projects while competing for more than \$4 million in scholarships, scientific trips, tuition grants, and scientific equipment. The annual event draws competitors from more than 40 countries, making it the world's largest international high school science and engineering competition.

Other prizes at ISEF include the IEEE Foundation Presidents' Scholarship. For further information about the IEEE Presidents' Scholarship, visit www.ieee.org/web/education/preuniversity/scholarship/index.html. For a detailed list of ISEF winners from previous years, including recipients of Computer Society prizes, visit www.sciserv.org/isef/results.

Intel's Gordon Moore Wins 2008 IEEE Medal of Honor

The IEEE Foundation, the philanthropic arm of the IEEE, announced recently that Gordon E. Moore, Intel chairman of the board, emeritus, will receive the 2008 IEEE Medal of Honor.

Moore is widely known for Moore's Law, which predicted in 1965 that the number of components on a computer chip would double every year. In 1975, he updated this prediction to once every two years. It has become a guiding principle for the semiconductor industry to deliver increasingly powerful chips while at the same time decreasing the cost of electronics.

Moore's award citation reads, "for pioneering technical roles in integrated-circuit processing, and lead-



Gordon Moore, a towering figure in early semiconductor development.

ership in the development of MOS memory, the microprocessor computer and the semiconductor industry."

A director at Gilead Sciences, Moore is a member of the National Academy of Engineering and a Fellow of the Royal Society of Engineers. He also serves on the board of trustees of the California Institute of Technology. Moore received the US National Medal of Technology in 1990 and the US Medal of Freedom, the nation's highest civilian honor, in 2002.

Nominations for the 2009 IEEE Medal of Honor are due by 1 July. Nomination forms are available at www.ieee.org/about/awards/sums/mohsum.htm.