



Association for  
Computing Machinery

*Advancing Computing as a Science & Profession*

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## ACM HONORS COMPUTING INNOVATORS WHO ARE CHANGING THE WORLD

### Award Winners Made Advances in Object Recognition, Parallel Computing, CS Education And Software Verification

**NEW YORK, NY, April 16, 2014**—ACM (the [Association for Computing Machinery](#)) today announced the winners of four prestigious awards for their innovations in computing technology. These innovators have made significant contributions that enable computer science to solve real-world challenges. The awards reflect achievements in computer vision, multiprocessor programming, computer science educational software, and certified software. The 2013 ACM award winners include computer scientists, educators, and entrepreneurs. ACM will present these and other awards at the ACM Awards Banquet on June 21 in San Francisco, CA.

#### The 2013 award winners include:

- **Pedro Felipe Felzenszwalb**, recipient of the [Grace Murray Hopper Award](#) for contributions to object recognition in pictures and video. Felzenszwalb developed innovative methods that have become key building blocks for most solutions to object recognition. His recent approach uses a sliding window that is moved around the image, testing the underlying image data to determine if local patterns are properly located. He also contributed widely-used, open-source software for computer vision, stimulating new research and applications. Felzenszwalb is an associate professor of Engineering and Computer Science at Brown University.  
*The Hopper Award recognizes the outstanding young computer professional of the year.*
- **Robert D. Blumofe** and **Charles E. Leiserson**, recipients of the [Paris Kanellakis Theory and Practice Award](#) for contributions to robust parallel and distributed computing. They developed provably efficient randomized “work-stealing” scheduling algorithms, and Cilk, a small set of linguistic primitives (the simplest elements in a programming language) for programming multithreaded computations. Their conceptual framework for work stealing is ubiquitous on scores of millions of multicore platforms and underpins many parallel-programming platforms. Cilk simplifies multiprocessor programming and guarantees mathematically that multithreaded programs with sufficient parallelism run with near-perfect speed. Blumofe is an Executive Vice President at Akamai Technologies, where he is responsible for the Platform Division, which includes the core distributed systems and network technology that underlie all of Akamai’s products and services. Leiserson, Professor of Computer Science and Engineering at the Massachusetts Institute of Technology, is co-author of *Introduction to Algorithms*, won the ACM Doctoral Dissertation Award, and is an ACM Fellow. *The Kanellakis Award honors specific theoretical accomplishments that significantly affect the practice of computing.*
- **Susan H. Rodger**, recipient of the [Karl V. Karlstrom Outstanding Educator Award](#) for contributions to the teaching of computer science theory in higher education, and the development of computer science education in primary and secondary schools. She and her students developed JFLAP (Java Formal Languages and Automata Package), an interactive software tool that allows students to construct and test examples of automata and grammars. These concepts are foundational to the design of software components, such as compiler parts. Intended primarily for undergraduate students or as an advanced topic for high school, JFLAP is used worldwide in computer science theory, compiler, and discrete mathematics courses. Through workshops for faculty development, Rodger’s work contributed to the creation of a professional community around the use of

visualizations to teach algorithms. She also leads efforts to introduce the programming language Alice in primary and secondary schools. Rodger is a professor of the practice of computer science at Duke University. Currently chair of the ACM Special Interest Group on Computer Science Education (SIGCSE), she is a board member of CRA-W and a member of the ACM Education Policy Committee. *The Karlstrom Award recognizes educators who advanced new teaching methodologies; effected new curriculum development in Computer Science and Engineering; or contributed to ACM's educational mission.*

- **Coq**, recipient of the [Software System Award](#). Coq is a software tool for the interactive development of formal proofs, which is a key enabling technology for certified software. It provides a formal language to write mathematical definitions, executable algorithms and theorems together with an environment for semi-interactive development of machine-checked proofs. An open source product, Coq has played an influential role in formal methods, programming languages, program verification and formal mathematics. As certification gains importance in academic and industrial arenas, Coq plays a critical role as a primary programming and certification tool. Coq's first implementation was in 1985, when it was named CoC (the acronym for the logic it implemented: the Calculus of Constructions). This system was developed by the Coq Development Team whose primary members were Thierry Coquand, University of Gothenburg; Gérard Huet, INRIA Paris - Rocquencourt; Christine Paulin-Mohring, University Paris Sud/INRIA Saclay; Bruno Barras, INRIA Saclay/École Polytechnique; Jean-Christophe Filliâtre, CNRS/INRIA Saclay; Hugo Herbelin, INRIA Paris - Rocquencourt; Chet Murthy, Google Inc.; Yves Bertot, INRIA Sophia; and Pierre Castéran, University of Bordeaux. *The Software System Award is given to an institution or individuals recognized for developing software systems that have had a lasting influence, reflected in contributions to concepts and/or commercial acceptance.*

### **About the Awards**

Grace Murray Hopper Award is given to the outstanding young computer professional of the year, selected on the basis of a single recent major technical or service contribution. This award is accompanied by a prize of \$35,000. The candidate must have been 35 years of age or less at the time the qualifying contribution was made. Financial support for this award is provided by [Microsoft Research](#).

Paris Kanellakis Theory and Practice Award honors specific theoretical accomplishments that have had a significant and demonstrable effect on the practice of computing. This award is accompanied by a prize of \$10,000 and is endowed by contributions from the Kanellakis family, with additional financial support provided by ACM's Special Interest Groups on Algorithms and Computation Theory (SIGACT), Design Automation (SIGDA), Management of Data (SIGMOD), and Programming Languages (SIGPLAN), the ACM SIG Projects Fund, and individual contributions.

Karl V. Karlstrom Outstanding Educator Award is presented annually to an outstanding educator who is appointed to a recognized educational baccalaureate institution. The recipient is recognized for advancing new teaching methodologies; effecting new curriculum development or expansion in Computer Science and Engineering; or making a significant contribution to the educational mission of ACM. Those with ten years or less teaching experience are given special consideration. A prize of \$5,000 is supplied by [Pearson Education](#).

Software System Award honors an institution or individual(s) recognized for developing a software system that has had a lasting influence, reflected in contributions to concepts, in commercial acceptance, or both. This award carries a prize of \$35,000. Financial support for the award is provided by [IBM](#).

### **About ACM**

ACM, the Association for Computing Machinery [www.acm.org](http://www.acm.org), is the world's largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field's challenges. ACM strengthens the computing profession's collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.

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