



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 Networked Systems, Social Networks, Science Education Standards, and Rescue Robots

**NEW YORK, NY, April 14, 2015** – ACM, the Association for Computing Machinery ([www.acm.org](http://www.acm.org)), today announced the recipients of five 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 efficient networked systems, standard software libraries, social connections on the Web, national science and engineering education standards, and search and rescue robotics. The 2014 ACM award recipients include computer scientists and educators. ACM will present these and other awards at the ACM Awards Banquet on June 20 in San Francisco.

#### The 2014 Award Winners Include:

- **Sylvia Ratnasamy**, recipient of the [Grace Murray Hopper Award](#) for her contributions to the first efficient design for distributed hash tables (DHT), a critical element in large-scale distributed and peer-to-peer computing systems. Ratnasamy's innovative design and implementation of networked systems enables a data object in a network to be located quickly without requiring a central registry. Her recent research introduces RouteBricks, an approach that makes networks easier to build, program and evolve, and is used as a way to exploit parallelism to scale software routers. She is an assistant professor in Computer Science at the University of California, Berkeley. *The Hopper Award recognizes the outstanding young computer professional of the year.*
- **James Demmel**, recipient of the [Paris Kanellakis Theory and Practice Award](#) for his work on numerical linear algebra libraries, including LAPACK (Linear Algebra Package), a standard software library that forms part of the standard mathematical libraries for many vendors. The software and standards Demmel developed enable users to transition their computer programs to new high-performance computers without resorting to basic building blocks. His accomplishments range from creation of algorithms with rigorous mathematical foundations to hands-on development of high-quality, widely available software. Demmel is a professor of Computer Science and of Mathematics at UC Berkeley and an ACM Fellow. *The Kanellakis Award honors specific theoretical accomplishments that significantly affect the practice of computing.*
- **Jon Kleinberg**, recipient of the [ACM - AAAI Allen Newell Award](#) for groundbreaking work in computer science on social and information networks, information retrieval, and data science, and for bridging computing, economics and the social sciences. Kleinberg contributed to the development of link analysis, a search technique that ranks the absolute number as well as the most relevant, trusted sources of pages linked to a Web search query. His innovative models and algorithms have broadened the scope of computer science to extend its influence to the burgeoning world of the Web and the social connections it enables. Kleinberg is the Tisch University Professor of Computer

Science and Information Science at Cornell University. A MacArthur Fellow, he is the recipient of the 2008 ACM-Infosys Foundation Award. *The ACM-AAAI Allen Newell Award is presented to an individual selected for career contributions that have breadth within computer science, or that bridge computer science and other disciplines.*

- **William Wulf**, recipient of the [Karl V. Karlstrom Outstanding Educator Award](#) for contributions as a teacher, author, and national leader who focused attention and changed the national education agenda and in the process supported the needs of underserved and under-represented students. As Assistant Director of the National Science Foundation's Directorate for Computer and Information Science & Engineering (CISE), he understood the role NSF played in supporting science and engineering in the US for both basic research and operation of several supercomputer centers and networks. As President of the US National Academy of Engineering, he advocated for advances in engineering education and technical literacy. Wulf is professor emeritus of Computer Science at the University of Virginia. An ACM Fellow, he received the 2011 ACM Distinguished Service Award. *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.*
- **Robin Roberson Murphy**, recipient of the [Eugene L. Lawler Award for Humanitarian Contributions within Computer Science and Informatics](#) for pioneering work in humanitarian disaster response through search and rescue robotics, to the benefit of both survivors and responders. Her research is in artificial intelligence for mobile robots as applied to disaster robotics. Working with responders and agency stakeholders, she deploys ground, aerial, and marine robots to disasters in order to understand how human-robot systems can save lives, mitigate unfolding dangers, and speed economic recovery. Murphy is Raytheon Professor of Computer Science and Engineering Faculty Fellow for Innovation in High-Impact Learning Experiences at Texas A&M University. *The Lawler Award recognizes an individual who has made a significant contribution through the use of computing technology, and is given once every two years.*

### **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.

[ACM - AAI Allen Newell Award](#) is presented to an individual selected for career contributions that have breadth within computer science, or that bridge computer science and other disciplines. The Newell award is accompanied by a prize of \$10,000, provided by ACM and the Association for the Advancement of Artificial Intelligence (AAAI), and by 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 \$10,000 is supplied by ACM and Pearson Education.

Eugene L. Lawler Award for Humanitarian Contributions within Computer Science and Informatics recognizes an individual or group who has made a significant contribution through the use of computing technology. It is given once every two years, assuming that there are worthy recipients. The award is accompanied by a prize of \$5,000 plus travel expenses to the ACM Awards Banquet.

**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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