acm

The Association for Computing Machinery
Advancing Computing as a Science & Profession

Contact: Virginia Gold
212-626-0505
vgold@acm.org

ACM AWARDS RECOGNIZE COMPUTER SCIENTISTS FOR INNOVATIONS THAT HAVE REAL WORLD IMPACT

Recipients' Achievements Have Improved Healthcare, Education, Internet Security, and Network Efficiency and Safety

NEW YORK, March 30, 2010 – The Association for Computing Machinery (ACM) today announced the winners of six prestigious awards for their innovations in computing technology that demonstrate the benefits of computational thinking for industry, education, and society. The awards reflect outstanding achievements that have led to improved medical diagnostics and healthcare delivery, better teaching methods for high school computer science, more secure Internet transactions, and enhanced network efficiency. The 2009 ACM award winners http://awards.acm.org/2010/acm-awards.cfm , from internationally known research and academic institutions, include practiced innovators as well as promising newcomers in the computing profession. ACM will present these and other awards at the ACM Awards Banquet on June 26, in San Francisco, CA.

The 2009 ACM awards winners include:

- **Mihir Bellare and Phillip Rogaway**, recipients of the Paris Kanellakis Theory and Practice Award http://awards.acm.org/kanellakis/ for their development of practice-oriented provable security, which has resulted in high-quality, cost-effective cryptography, a key component for Internet security in an era of explosive growth in online transactions. Bellare, a professor at the University of California San Diego, and Rogaway, a professor at the University of California Davis, adapted modern cryptographic theory to make it more applicable for reducing the risk of cyber attacks in the real world. *The Kanellakis Award honors specific theoretical accomplishments that significantly affect the practice of computing*.

- **VMware Workstation 1.0,** the Software System Award http://awards.acm.org/software_system/ for bringing virtualization technology to modern computing environments, spurring a shift to virtual-machine architectures, and allowing users to efficiently run multiple operating systems on their desktops. Stanford University professor **Mendel Rosenblum** and his students realized that virtual-machine technology could help with many of the problems suffered by modern computing environments. This breakthrough led to their founding of VMware Inc. and the design and implementation of its first product by Rosenblum and his colleagues **Edouard Bugnion, Scott Devine**, **Jeremy Sugerman,** and **Edward Wang.** The technology was subsequently adopted by large-scale data-center operators to increase the

efficiency and security of shared computational resources, and has caused leading processor vendors to modify their designs to support virtualization. *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.*

- **Michael Jordan,** recipient of the ACM/AAAI Allen Newell Award http://awards.acm.org/newell/ for fundamental advances in statistical machine learning, a field which develops computational methods for inference and decision-making based on data. Jordan, a professor at the University of California, Berkeley, has focused on graphical models, kernel machines and Bayesian nonparametric statistics. He has developed applications of these methods to a variety of problem areas in computational biology, including protein structure and function, population genetics and genomics. His work has had impact in signal processing, information retrieval, computational vision and natural language processing. He has also studied learning in the domain of human motor control. *The Newell Award recognizes career contributions that have breadth within computer science, or that bridge computer science and other disciplines.*

- **Tim Roughgarden**, recipient of the Grace Murray Hopper Award http://awards.acm.org/hopper/ for introducing novel techniques that quantify lost efficiency with the uncoordinated behavior of network users who act in their own self-interest. His research has built a bridge between theoretical computer science and the networking research community that has the potential to capture the important role of strategic behavior in the design and analysis of future networks. Roughgarden is an assistant professor at Stanford University, whose book, *Selfish Routing and the Price of Anarchy*, outlines several approaches to limiting the efficiency loss in large networks resulting from self-interested users. *The Hopper Award recognizes the outstanding young computer professional of the year.*

- **Matthias Felleisen**, recipient of the Karl V. Karlstrom Outstanding Educator Award http://awards.acm.org/karlstrom/ for his visionary and long-standing contributions to K-12 outreach programs. In 1995, he founded the TeachScheme! project, which has trained over 700 educators; he was also instrumental in setting up the Bootstrap afterschool programs for students in groups that are underrepresented in the computing field. A Trustee Professor at Northeastern University, Felleisen contributed the innovative idea of a design recipe to the computing curriculum, a set of steps that helps students focus on problem solving and logical thinking instead of computer details. *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.*

- **Gregory D. Abowd,** recipient of the Eugene L. Lawler Award for Humanitarian Contributions within Computer Science and Informatics http://awards.acm.org/lawler/ for promoting a vision of health care

and education that incorporates the use of advanced information technologies to address difficult challenges relating to the diagnosis and treatment of behavioral disorders, such as autism, as well as the assessment of behavioral change within complex social environments. A professor at Georgia Institute of Technology, Abowd's work in autism has resulted in the development and optimization of behavioral evaluation protocols for use by parents, caregivers, educators, and health care clinicians within naturalistic environments, and he has supported the commercialization of work in this area. *The Lawler Award, given every two years for humanitarian contributions, recognizes individuals or groups who have made a significant contribution using computing technology.*

2009 ACM Awards recipients listing: http://awards.acm.org/current_recipients.cfm?yr=2009

About the Awards

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 $5,000 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.

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 http://www.ibm.com .

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. This endowed award is accompanied by a prize of $10,000, and is supported by the Association for the Advancement of Artificial Intelligence http://aaai.org , and by individual contributions.

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 Google http://www.google.com .

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 the Prentice-Hall Publishing Company http://www.prenticehall.com .

Eugene L. Lawler Award for Humanitarian Contributions within Computer Science and Informatics recognizes individuals or groups who have made a significant contribution using computing technology. Given once every two years, the award is $5,000. Recipients need never have earned a degree or published a paper, nor been considered a computer professional. The Award Committee emphasizes the significance of the contribution itself, within the prescribed areas of technology for humanitarian contributions in the computing field.

About ACM

ACM, the Association for Computing Machinery **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.

###