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

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ACM Names 47 Fellows For Innovations In Computing And Information Technology

Many Achievements Reflect Computational Thinking That Solves Complex Problems

New York, NY, December 1, 2009 -- ACM has recognized 47 of its members for their contributions to computing and computer science that have contributed fundamental knowledge to the field and generated a broad range of innovations in industry, commerce, entertainment, and education. The 2009 ACM Fellows **http://fellows.acm.org/**, from the world's leading universities, industries, and research labs, created advances in computer theory as well as practice. These accomplishments will play a crucial role in driving innovations that are necessary to sustain competitiveness in an information-based society.

"The contributions of these computing professionals reflect the knowledge and skills they have acquired to address the challenges of the 21st century," said ACM President, Professor Dame Wendy Hall "Their problem-solving, logical reasoning, and critical thinking are making positive changes to the lives and well-being of countless people across the globe. We are especially pleased to welcome the increased number of ACM Fellows from outside of North America. The selection of this year's Fellows offers an opportunity to celebrate their dedication to the dynamic computing field and to recognize their achievements in advancing the quality of life throughout society."

The complete list of 2009 ACM Fellows is appended at the end of this announcement.

Within the corporate sector, the 2009 ACM Fellows named from **Google Inc**. were cited for contributions ranging from the science and engineering of large-scale distributed computer systems and cloud computing systems to dynamic computer architecture and data analysis. **Microsoft Research** had ACM Fellows who were recognized for achievements in database management, computing theory, and operating systems. **IBM Thomas J. Watson Research Center** had Fellows who were honored for advances in programming language design, social computing, and relational database technology. Other companies with 2009 Fellows were **Yahoo! Research** and **Cisco Systems.** Their respective contributions include information retrieval techniques and computer networking.

Among the universities with 2009 ACM Fellows was the **University of Texas at Austin**, whose Fellows were recognized for achievements in computational biology and bioinformatics as well as computing education. Fellows from **Massachusetts Institute of Technology** were recognized for

contributions to combinatorial optimization problems and for analysis of parallel computing and software reliability.

Other North American universities with 2009 ACM Fellows include **University of Washington; Northwestern University; Duke University; University of Colorado; University of California at Irvine, Riverside, and Berkeley; State University of New York at Buffalo and Stony Brook; McGill University; University of Michigan; North Carolina State University; University of North Carolina at Chapel Hill; Princeton University; University of Toronto; University of Minnesota; University of Southern California; Cornell University; University of Florida; Stanford University; and University of Chicago.** ACM Fellows from these institutions were cited for achievements in development of embedded computing systems; parallel storage; robotics and molecular biology; computer-human interaction; data structures and algorithms; image analysis, recognition, and retrieval; program analysis and optimization; database management; object-oriented programming languages; security of network systems; complexity theory; applications of volume visualization; geometric computing for computer graphics; power-aware computing; metadata management; collaborative computing; interdisciplinary applications of computer science; fault-tolerant distributed computing; and human-centered design.

Among universities outside North America, the 2009 ACM Fellows include **Technion – Israel Institute of Technology** in Israel; **International Institute of Information Technology, Pune** in India; **University of Munich** in Germany; **Sapienza Università di Roma** in Italy; **Chinese University of Hong Kong** in China; **Tata Institute of Fundamental Research** in India; **University of Lisbon** in Portugal; **Ecole Polytechnique Federale de Lausanne** in Switzerland; **Korea Advanced Institute of Science and Technology** in South Korea; and **University of Sheffield** in UK. Fellows from these universities were recognized for contributions to distributed and parallel computing; computing technology and education; knowledge discovery and data mining; data management and knowledge representation; parallel storage and communications systems; distributed programs and logic programming; secure computing; multimedia compression and communication; database management system architecture; and natural language for computers. ACM also named a 2009 Fellow from **Argonne National Laboratory f**or advances in parallel programming languages.

ACM will formally recognize the 2009 Fellows at its annual Awards Banquet June 26, 2010. Additional information about the ACM 2009 Fellows, the awards event, as well as previous ACM Fellows and award winners is available at **www.acm.org/awards**.

2009 Fellows and Citations

Hagit Attiya
Technion – Israel Institute of Technology
For contributions to distributed and parallel computing

David F. Bacon
IBM T.J. Watson Research Center
For contributions to real-time systems and to object-oriented language design and implementation

Ricardo Baeza-Yates
Yahoo! Research
For contributions to the implementation of information retrieval algorithms and techniques

Chandrajit L. Bajaj
University of Texas at Austin
For contributions to algorithms for geometric design, scientific visualization, computational biology and bioinformatics

Vijay Bhatkar
International Institute of Information Technology/ ETH/ Multiversity, Pune
For contributions to computing technology, education and research

Jose A. Blakeley
Microsoft Corporation
For contributions to database management systems and data access technologies

Gaetano Borriello
University of Washington
For the design, realization, and integration of embedded and ubiquitous computing systems

Alok Choudhary
Northwestern University
For contributions to High Performance Computing, storage, and parallel I/O

Nell B. Dale
University of Texas at Austin - Emerita
For distinguished service to the ACM and her impact on computing education

Bruce S. Davie
Cisco Systems
For contributions to computer networking

Jeffrey A. Dean
Google Inc.
For contributions to the science and engineering of large-scale distributed computer systems.

Thomas L. Dean
Google, Inc.
For the development of dynamic Bayes networks and anytime algorithms

Bruce R. Donald
Duke University
For contributions in robotics, MEMS, and computational molecular biology

Thomas Erickson
IBM T. J. Watson Research Center
For contributions to interaction design and social computing and for outstanding service to ACM

Gerhard Fischer
University of Colorado
For contributions to human computer interaction and computer-mediated lifelong learning

Ian T. Foster
Argonne National Laboratory and University of Chicago
For work in parallel programming languages, collaborative and distributed computing

Andrew V. Goldberg
Microsoft Research Silicon Valley
For contributions to fundamental theoretical and practical problems in the design and analysis of algorithms

Michael T. Goodrich
University of California, Irvine
For contributions to data structures and algorithms for combinatorial and geometric problems

Venugopal Govindaraju
State University of New York at Buffalo
For contributions to handwritten document image analysis, recognition, and retrieval

Rajiv Gupta
University of California, Riverside
For contributions to program analysis and optimization and professional service to the computer science research community

Joseph M. Hellerstein
University of California, Berkeley
For contributions to database systems and data management

Laurie Hendren
McGill University
For contributions to program analysis of procedural, object-oriented and aspect-oriented programming languages

Urs Hoelzle
Google Inc.
For the design, engineering and operation of energy-efficient large-scale cloud computing systems

Farnam Jahanian
University of Michigan
For contributions to the dependability and security of networks and systems.

Erich L. Kaltofen
North Carolina State University
For contributions to symbolic and algebraic computation, algebraic algorithms and complexity theory

David Karger
Massachusetts Institute of Technology
For efficient algorithms for combinatorial optimization problems based on randomization

Arie E. Kaufman
State University of New York at Stony Brook
For contributions to volume visualization and its applications

Hans-Peter Kriegel
University of Munich (Ludwig-Maximilians-Universitaet Muenchen)
For contributions to knowledge discovery and data mining, similarity search, spatial data management, and access methods for high-dimensional data

Maurizio Lenzerini
Sapienza Università di Roma
For contributions to data management and knowledge representation

John C.S. Lui
Chinese University of Hong Kong
For contributions to stochastic analysis of parallel storage and communication systems

Dinesh Manocha
University of North Carolina at Chapel Hill
For contributions to geometric computing and applications to computer graphics, robotics and Graphics Processing Unit computing

Margaret Martonosi
Princeton University
For contributions in power-aware computing

Yossi Matias
Google Inc.
For contributions to the analysis of large data sets and data streams

Renee J. Miller
University of Toronto
For innovations in metadata management, especially the creation of tools to integrate, transform, query and analyze information

John T. Riedl
University of Minnesota
For contributions to recommender systems and to social and collaborative computing

Martin Rinard
Massachusetts Institute of Technology Computer Science and Artificial Intelligence Laboratory
For his contributions to program analysis for parallel computing and for techniques for enabling software systems to execute successfully in the face of errors and failures

Patricia Selinger
IBM Research
For contributions to the field of relational database technology

R. K. Shyamasundar
Tata Institute of Fundamental Research
For contributions to real-time distributed programs and logic programming

Shang-Hua Teng
University of Southern California
For contributions to theoretical computer science, algorithms and interdisciplinary applications of computing

Chandramohan A. Thekkath
Microsoft Research Silicon Valley
For contributions to operating systems, distributed systems, and scalable storage

Robbert van Renesse
Cornell University
For contributions to fault-tolerant distributed computing

Baba C. Vemuri
University of Florida
For contributions to computer vision and medical image analysis

Paulo Veríssimo
University of Lisbon
For contributions to dependable and secure distributed computing

Martin Vetterli
Ecole Polytechnique Federale de Lausanne (EPFL)

For contributions to multimedia compression and communication

Kyu-Young Whang
Korea Advanced Institute of Science and Technology (KAIST)
For contributions to physical database design, query processing, and database management system architecture

Yorick Wilks
University of Sheffield
For research on meaning-based understanding of natural language by computers

Terry Winograd
Stanford University
For contributions to AI, natural language processing, HCI, and human-centered design

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.

About the ACM Fellows Program
The ACM Fellows Program, initiated in 1993, celebrates the exceptional contributions of the leading members in the computing field. These individuals have helped to enlighten researchers, developers, practitioners and end-users of information technology throughout the world. The new ACM Fellows join a distinguished list of colleagues to whom ACM and its members look for guidance and leadership in computing and information technology.

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