ACM
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**Association for
Computing Machinery**

Advancing Computing as a Science & Profession

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ACM Awards Reception & Banquet

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The Westin St. Francis
San Francisco, California
June 24, 2017

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2016 ACM A.M. Turing Award

(left to right) Vicki L. Hanson, ACM President, Andrei Broder, Google Distinguished Scientist, and 2016 ACM A.M. Turing Award recipient, Sir Tim Berners-Lee.

2016 ACM Prize in Computing

(left to right) Vicki L. Hanson, ACM President, Navin Budhiraja, Infosys Chief Technology Officer, and Alexei A. Efros, 2016 ACM Prize in Computing recipient

ACM AWARDS

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Introduction

ACM, the Association for Computing Machinery, is the world's largest educational and scientific computing society. ACM's overarching goal is to advance computing as a science and a profession. A very important part of this goal is to recognize outstanding technical and professional achievements in computing and computer science through our series of awards.

ACM's awards celebrate our long tradition of honoring those whose contributions have impacted our world for the better in countless ways. These prestigious and internationally recognized honors are an integral part of ACM's mission to unite computing educators, researchers, and professionals to inspire dialogue, share resources, and address the field's challenges.

ACM welcomes nominations for candidates whose work exemplifies the best and most influential contributions to our community, and society at large. More information on nominating candidates for future awards is available on page 29 in this booklet.

The awards included in this overview are being presented at the 2018 ACM Awards Banquet on June 23, 2018, at the Palace Hotel in San Francisco, California.

More information on ACM's Awards Programs can be found at http://awards.acm.org, including links to the full award citations and a downloadable version of this booklet.

A.M. Turing Award

John L. Hennessy
Stanford University

David A. Patterson
University of California, Berkeley

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The A.M. Turing Award is presented to John L. Hennessy and David A. Patterson for pioneering a systematic, quantitative approach to the design and evaluation of computer architectures with enduring impact on the microprocessor industry.

Hennessy and Patterson created a systematic and quantitative approach to designing faster, lower power, and reduced instruction set computer (RISC) microprocessors. Their approach led to lasting and repeatable principles that generations of architects have used for many projects in academia and industry. Today, 99% of the more than 16 billion microprocessors produced annually are RISC processors, and are found in nearly all smartphones, tablets, and the billions of embedded devices that comprise the Internet of Things (IoT).

Hennessy and Patterson codified their insights in a very influential book, *Computer Architecture: A Quantitative Approach*, now in its sixth edition, reaching generations of engineers and scientists who have adopted and further developed their ideas. Their work underpins our ability to model and analyze the architectures of new processors, greatly accelerating advances in microprocessor design.

This award celebrates the work of one of the founding fathers of modern computer science – Alan Mathison Turing (1912-1954). In a 1936 paper, Turing introduced a precise definition of a computational machine (now called a Turing Machine). He is perhaps best known for his contributions during World War II in cracking the Enigma code. After the war, he worked on early British computers at the National Physical Laboratory and Manchester University. He later studied problems key to Artificial Intelligence

Accompanied by a prize of $1,000,000, ACM's most prestigious award is given to recognize contributions of a technical nature which are of lasting and major technical importance to the computing field. Financial support of the A.M. Turing Award is provided by Google Inc.

ACM Prize in Computing

Dina Katabi
Massachusetts Institute of Technology

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The ACM Prize in Computing is presented to Dina Katabi for creative contributions to wireless networking. Recognized as one of the most innovative researchers in the field of networking, Katabi applies methods from communication theory, signal processing and machine learning to solve problems in wireless networking.

Among her contributions, she is cited for co-authoring several highly influential papers on overcoming interference in wireless networks to improve the flow of data traffic. And in inventing a device that seems to be lifted out of the pages of science fiction, she and her team pioneered the use of the wireless signals in the environment to sense humans behind walls, determine their movements and even surmise their emotional states. These trailblazing human-sensing technologies hold out promise for use in several applications of daily life including helping the house-bound elderly, and-perhaps determining survivors within buildings during search and rescue operations.

Katabi, along with MIT colleague Piotr Indyk and students, developed a new algorithm, the Sparse Fast Fourier Transform (SFFT) that processes data 10 to 100 times faster than previous methods.

The ACM Prize in Computing recognizes an early to mid-career fundamental innovative contribution in computing that, through its depth, impact and broad implications, exemplifies the greatest achievements in the discipline.

The award carries a prize of $250,000. Financial support is provided by Infosys. The ACM Prize in Computing was previously known as the ACM-Infosys Foundation Award in the Computing Sciences from 2007 through 2015.

ACM – AAAI Allen Newell Award

Margaret A. Boden
University of Sussex

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The ACM-AAAI Allen Newell Award is presented to Margaret A. Boden for contributions to the philosophy and historiography of cognitive science and artificial intelligence, particularly in the study of human creativity.

For four decades, Boden has been one of the world's premiere thought leaders on the intersection of artificial intelligence, cognitive science and the humanities. Through insightful analyses, she was often the first to reveal surprising connections among disciplines, which she then outlined in a series of highly influential books. In two classic books—*Artificial Intelligence and Natural Man* (1977) and *The Creative Mind* (1990)—she introduced the idea of creative cognition, which inspired a generation of researchers and laid the foundation of computational creativity as a new subfield of artificial intelligence.

Boden's two-volume *Mind as Machine: A History of Cognitive Science* (2006) is a comprehensive survey of interdisciplinary work at the intersection of cognitive science and computation that highlights work in neuroscience, philosophy, biology, psychology linguistics and computation. Her most recent book AI, Its Nature and Future (2016) was described by Nature magazine as "a masterclass."

The award is named for Allen Newell (1927-1992), a trailblazer in computer science research and education, and a founder of the artificial intelligence and cognitive science fields. A pivotal force in creating Carnegie Mellon's School of Computer Science, he co-authored *Human problem Solving* with Nobel Laureate Herbert Simon in 1972. Both were recipients of ACM's 1975 A.M. Turing Award.

The Newell Award is presented to individuals selected for career contributions that have breadth within computer science, or that bridge computer science and other disciplines. It is accompanied by a $10,000 prize provided by ACM and the Association for the Advancement of Artificial Intelligence (AAAI), and by individual contributions.

Software System Award

Project Jupyter

**Fernando Pérez, Brian E. Granger, Min Ragan-Kelley, Paul Ivanov, Thomas Kluyver
Jason Grout, Matthias Bussonier, Damián Avila, Steven Silvester, Jonathan Frederic
Kyle Kelley, Jessica Hamrick, Carol Willing, Sylvain Corlay, Peter Parente**

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The ACM Software System Award is presented to original members of the Project Jupyter Steering Council, for Project Jupyter, a broad collaboration that develops open source tools for interactive computing, with a language-agnostic design. These tools, which include IPython, the Jupyter Notebook and JupyterHub, have become a de facto standard for data analysis in research, education, journalism and industry. Jupyter has broad impact across domains and use cases. Today more than 2,000,000 Jupyter notebooks are on GitHub, each a distinct instance of a Jupyter application—covering a range of uses from technical documentation to course materials, books and academic publications.

Jupyter has also gained wide industry adoption. Since 2015, Jupyter-based products have been released by several companies including Google (Cloud DataLab), Microsoft (AzureML, HDInsight), Intel (Trusted Analytics Platform), and IBM (IBM Watson Studio). Bloomberg and Anaconda Inc. have partnered with Project Jupyter to develop the next-generation web interface, JupyterLab.

The Software System Award is presented to an institution or individuals recognized for developing a software system that has had a lasting influence, reflected in contributions to concepts, in commercial acceptance, or both. A prize of $35,000 accompanies the award with financial support provided by IBM.

Grace Murray Hopper Award

Amanda Randles
Duke University

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The Grace Murray Hopper Award is presented to Amanda Randles for developing HARVEY, a massively parallel circulatory simulation code capable of modeling the full human arterial system at subcellular resolution and fostering discoveries that will serve as a basis for improving the diagnosis, prevention, and treatment of human diseases.

A focus of Randles's research has been in developing and applying high performance computing to biomedical problems. With HARVEY, she combined her knowledge of applied physics, computational methods and parallel computing to develop a physiologically accurate model of the movement of red blood cells throughout the body. The simulation mapped 500 billion fluid points using a supercomputer with 1.6 million cores (individual processors). HARVEY marked the first time a researcher had been able to effectively model the flow of blood at the cellular level. Randles is presently working with collaborators at the Dana Farber Cancer Institute and Harvard Medical School to extend the use of HARVEY to cancer biology and cardiovascular treatment planning.

Randles's cross-disciplinary approach has helped to bridge the gap between the computer and the clinic—translating computational results into actionable data physicians can use to improve patient outcomes.

The award is named for Grace Murray Hopper (1906-1992), a pioneer in software development. Her work spanned programming languages, software development concepts, compiler validation, and data processing. Admiral Hopper's early recognition of the potential for commercial applications of computers, and her leadership in making this vision a reality paved the way for modern data processing.

The Grace Murray Hopper Award is presented to the outstanding young computer professional of the year, selected on the basis of a single recent major technical or service contribution. The candidate must have been 35 years of age or less at the time the qualifying contribution was made. A prize of $35,000 accompanies the award. Financial support for the Grace Murray Hopper Award is provided by Microsoft.

Paris Kanellakis Theory and Practice Award

Scott Shenker
University of California, Berkeley

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The Paris Kanellakis Theory and Practice Award is presented to Scott Shenker for pioneering contributions to fair queueing in packet-switching networks, which had a major impact on modern practice in computer communication.

Shenker's work was fundamental to helping the internet grow from a tool used by a small community of researchers, to a staple of daily life that is used by billions of people. Since the internet was introduced, demand has grown for the ability of computer networks to transmit voice and data simultaneously. Shenker was the first to develop the first practical fair queueing algorithm for packet-switching networks, which provided equitable access to transmission bandwidth for different grades of service quality. Many of the commercial routers that make up the internet today use Shenker's algorithms.

Shenker also developed a mathematical tool for rigorous network research, and introduced ideas for implementing "guaranteed" real-time services such as voice, video streaming and multicasts. Recently, Shenker has been involved in positing how to redesign the internet from the ground up. Software-defined networking (SDN) and software-defined internet architecture (SDIA) are key ideas he developed as part of these inquiries. Researchers consider SDN and SDIA invaluable concepts for mapping out how to most effectively maintain and expand the internet in the coming years.

The award is named for Paris Christos Kanellakis (1953-1995), who, as a distinguished computer science theoretician and esteemed faculty member of Brown University, focused much of his work in the area of theoretical computer science, particularly the principles of database systems and logic. His contributions were exceptional both in the breadth of his interests and his ability to carve out research programs in which his keen mathematical insight could be put at the service of practical issues.

The 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, and financial support by ACM's SIGACT, SIGDA, SIGMOD, SIGPLAN, the ACM SIG Project Fund, and individual contributions.

Karl V. Karlstrom Outstanding Educator Award

Judith Gal-Ezer
The Open University of Israel

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The Karl V. Karlstrom Award is presented to Judith Gal-Ezer for her central role in developing a groundbreaking high-school computer-science curriculum, her outstanding computer science education research, and her extensive service to the education community

In 1995 Gal-Ezer, who is currently a professor emerita at The Open University of Israel, led the development of a bold new CS curriculum for Israeli high school students. Her reimagined approach moved away from conventional pedagogies, which prioritized coding, to emphasizing the underlying ideas of computer science. Gal-Ezer's framework was such a success at engaging students that many other countries used it as a model as they revised or introduced their own CS curricula.

Her seminal works include her 1998 paper "What (Else) Should CS Educators Know," co-authored with David Harel. Gal-Ezer has also been active in developing curricula at the university level. From 1985 onward, she played a prominent role in setting up computer science programs at OUI.

Outside Israel, Gal-Ezer has been an indispensable collaborator for several major organizations that advance CS education. She has been a member of key CS education journal editorial boards, served on the Computer Science Teachers Association's (CSTA) Advisory Council, and more recently, joined the Committee on European Computing Education (CECE, a group consisting of members from the ACM Europe Council and Informatics Europe) and Google's education advisory council.

The Karlstrom Award is presented annually to an outstanding educator who is appointed to a recognized educational baccalaureate institution; recognized for advancing new teaching methodologies; effecting new curriculum development or expansion in computer science and engineering; or making a significant contribution to ACM's educational mission. Those teachers with ten years or less experience are given special consideration. The Karlstrom Award is accompanied by a prize of $10,000. Financial support is provided by Pearson Education.

ACM Policy Award

William A. Wulf
University of Virginia

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The ACM Policy Award is presented to William A. Wulf for broad contributions bringing computing into the national agenda, leading computer scientists into public policy where his inspirational leadership promoted key national priorities including diversity and ethics.

A highlight of Wulf's tenure as Director of the National Science Foundation (NSF) Computer & Information Science & Engineering (CISE) division (1988-1990) was overseeing the merger and conversion of the ARPANet, an early packet-switching network with/to NREN, an early network that supported the research and education communities. This merger, as well as efforts by Wulf and others to work with Congress to craft legislation, led to the publicly accessible internet.

As the Chair of National Research Council (NRC) Computer Science and Telecommunications Board (1992-96), Wulf managed the development of several landmark reports including "Computing the Future: A Broader Agenda for Computer Science and Engineering", and "Evolving the High Performance Computing and Communications Initiative," among many others.

While at the National Academy of Engineering (NAE), Wulf became known as the "Education President." He established NAE's first Standing Committee on Engineering Education and spearheaded NAE's technical literacy movement. Two reports: "The Engineer of 2020" and "Educating the Engineer of 2020" were especially well-received and fostered broad consensus among NAE's membership. Wulf was also recognized for his efforts in championing ethics and greater diversity in the engineering profession during his term at NAE.

The ACM Policy Award recognizes an individual or small group that had a significant positive impact on the formation or execution of public policy affecting computing or the computing community. This can be for education, service, or leadership in a technology position; for establishing an innovative program in policy education or advice; for building the community or community resources in technology policy; or other notable policy activity. The biennial award is accompanied by a $10,000 prize.

Distinguished Service Award

Janice E. Cuny
National Science Foundation

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The Distinguished Service Award is presented to Jan Cuny for the establishment and tireless promotion of projects and resulting organizations that have nationally transformed CS education by increasing and diversifying access to high quality CS education.

When she joined the US National Science Foundation (NSF) in 2004, Cuny initiated the Broadening Participation in Computing Program (BPC), which seeded a number of Alliances—large-scale efforts that are continuing to work at the national level to increase diversity in the computing field.

Cuny also worked with the College Board to develop AP CS Principles, a new national Advanced Placement (AP) computer science course and exam designed to attract traditionally underrepresented groups to computing. AP Computer Science Principles was launched in the 2016-2017 academic year. More than 2,500 schools offered the course and more than 50,000 students took the exam—the biggest launch in the AP's history.

To facilitate more computer science education throughout the US K-12 educational system, Cuny launched an effort to catalyze a movement to add 10,000 new well-trained CS teachers throughout the country in 10 years. This ambitious professional development effort was dubbed "CS10K."

The Distinguished Service Award is given on the basis of value and degree of service to the computing community. The contributions are not limited to service to the Association, and should include activities in other computer organizations and should emphasize contributions to the computing community at large.

ACM Athena Lecturer Award

Andrea Goldsmith
Stanford University

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The ACM Athena Lecturer Award is presented to Andrea Goldsmith for contributions to the theory and practice of adaptive wireless communications and sustained translation of theoretic results into commercial technologies and industry standards.

Goldsmith introduced innovative approaches to the design, analysis and fundamental performance limits of wireless systems and networks. Her efforts helped develop technologies used in long-term evolution (LTE) cellular devices as well as the Wi-Fi standards that are used in wireless local area networks.

Beginning in the early 1990s, Goldsmith developed several fundamental capacity results for wireless systems. These contributions increased data rates and extended range while lessening the impact of ongoing challenges in wireless communications including co-channel interference, poor reception, and outages.

She also proposed techniques, including design of modulation and coding scheme (MCS) tables and quadrature amplitude modulation (MQAM and code) indexed by signal noise radio (SNR) bands, that are used in a variety of wireless systems including EDGE, Wi-Fi and 3GPP/LTE.

In 2008, as CTO of Quantenna Communications, Goldsmith led the development of the world's first 4x4 adaptive MIMO 802.11n Wi-Fi chipset. Compared with other Wi-Fi products on the market, the Quantenna chipset provided better data rates, coverage and reliability and was especially effective for wireless distribution of multiple HD video streams.

The ACM Athena Lecturer Award recognition celebrates women researchers who have made fundamental contributions to computer science. The ACM-W Council, which organized the Athena Lecturer project to honor a preeminent woman computer scientist, chose to identify the honoree with the Greek goddess of wisdom, who, with her sense of purpose and willingness to enter the fray, epitomizes the strength, determination, and intelligence of the Athena Lecturers. The award includes a $25,000 honorarium provided by Google. From 2006 to 2016 this Award was known as the ACM-W Athena Lecturer Award.

Outstanding Contribution to ACM Award

Steve Bourne
Rally Ventures

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The Outstanding Contribution to ACM Award is presented to Steve Bourne for significant contributions to ACM, particularly for reaching out to practitioners through the development of the Practitioner Board and *ACM Queue*, and for his support of students worldwide through his engagement with, and support of, the ACM International Collegiate Programming Contest.

During his tenure as President of ACM (2000-2002), Bourne instituted and fostered projects to interest and support practicing professionals, and his involvement in these programs continues to this day. A centerpiece of these efforts was the launch of *ACM Queue*, a first-of-its kind magazine for practicing software engineers. In enlisting and guiding the magazine's first editorial board, Bourne envisioned a publication that would not simply chronicle industry news, but rather provide software engineers with insights into coming challenges in the field and changes that lie just ahead. Fifteen years after its first issue, *ACM Queue* remains popular as an online magazine and mobile app.

Bourne also broadened ACM's appeal to professionals by initiating and developing the ACM Practitioners Board. The board meets regularly to ensure that ACM continues to offer products and services that support and enhance the professional and technical development of ACM members.

Another of Bourne's contributions to ACM has been his active participation since 2001 in the ACM-operated International Collegiate Programming Contest (ICPC). Now in its 42nd year, ICPC counts more than 320,000 alumni.

The Outstanding Contribution to ACM Award recognizes outstanding service contributions to the Association. Candidates are selected based on the value and degree of service overall, and up to three individuals may be awarded each year.

ACM Presidential Award

The ACM Presidential Award is given to leaders in computing whose actions and achievements serve as paragons for the field. Recipients have demonstrated their exceptional abilities to advance the discipline of computing through generosity, creativity, and dedication to their respective missions.

Donald Gotterbarn
East Tennessee State University

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The ACM Presidential Award is presented to Donald Gotterbarn in grateful appreciation of 25 years of outstanding service as chief architect for ACM's Code of Professional Ethics, a living document adopted by the computing community worldwide as the blueprint for professional conduct in the field.

Gotterbarn has served to define what it means, ethically, to be a computing professional. He was a forerunner in recognizing the critical importance of professional ethics and has worked tirelessly, as an educator and practitioner, to advance this message to a global audience through the development of computer ethics curriculum, leading workshops, and serving as chair of ACM's Committee on Professional Ethics. Throughout the creation of the original code, and now its revision, Gotterbarn has insisted on engaging the computing community, seeking guidance and feedback in the code's design and direction, always appreciating that the cause—and the code—is only as strong as its supporters.

ACM Presidential Award

Andrew McGettrick
Strathclyde University

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The ACM Presidential Award is presented to Andrew McGettrick in recognition of his unwavering commitment to computer science education—particularly in terms of its quality, breadth, and access—for generations of students worldwide.

McGettrick served as chair of ACM's Education Board and Education Council for over 15 years, leaving an indelible imprint as a passionate advocate for equipping computer science students with the knowledge, skills and tools to succeed in the field. During his tenure he steered the development of key curricula in computer science and software engineering.

In recent years, McGettrick has played an instrumental role in drawing European educational efforts and European professional societies to the table through his work with ACM's Europe Council and Informatics Europe. McGettrick was one of the leading forces behind the Informatics for All initiative, an acclaimed report that explores strategies for informatics education in Europe at all levels.

ACM Presidential Award

Fabrizio Gagliardi
Barcelona Supercomputing Center

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The ACM Presidential Award is presented to Fabrizio Gagliardi in appreciation of his selfless dedication to ACM, ensuring the organization's activities, services, and influence extend throughout the European continent.

Gagliardi is honored here for his tireless efforts as the spirit behind ACM's public policy arm in Europe, EUACM, having served as its chair since 2013. Gagliardi is a practical visionary, who realized if ACM is to inform technology policy in Europe it must have a formidable, and local, presence. The work of EUACM under Gagliardi's leadership has made a lasting impression in short order, forging dialogues about computing with members of the European Commission as well as spearheading public policy statements on cybersecurity and CS education.

He was a guiding force behind two recent panels featuring ACM and EU Commission representatives, considering issues of computing instruction and automated decision making.

Doctoral Dissertation Award

Aviad Rubinstein
Harvard Post-doc/Stanford University (Fall 2018)

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The Doctoral Dissertation Award is presented to Aviad Rubinstein, Stanford University, for his dissertation, *Hardness of Approximation Between P and NP*, nominated by the University of California, Berkeley.

Mohsen Ghaffari
ETH Zurich

Stefanie Mueller
Massachusetts Institute of Technology

Honorable Mentions for the Doctoral Dissertation Award are presented to: Mohsen Ghaffari, ETH Zurich, for his dissertation, *Improved Distributed Algorithms for Fundamental Graph Problems*, nominated by the Massachusetts Institute of Technology; and Stefanie Mueller, Massachusetts Institute of Technology, for her dissertation, *Interacting with Personal Fabrication Devices*, nominated by the Hasso Plattner Institute.

The Doctoral Dissertation Award is presented annually to the author(s) of the best doctoral dissertation(s) in computer science and engineering. The Doctoral Dissertation Award is accompanied by a prize of $20,000 and the Honorable Mention Award is accompanied by a prize totaling $10,000. Financial sponsorship of the award is provided by Google, Inc. Winning dissertations will be published in the ACM Digital Library as part of the ACM Books Series.

ACM Student Research Competition

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The ACM Student Research Competition (SRC) represents a unique forum for ACM undergraduate and graduate student members to present their original research. Student winners from the SIGACCESS, SIGARCH, SIGCHI, SIGCOMM, SIGCSE, SIGDA, SIGDOC, SIGGRAPH, SIGHPC, SIGMOBILE, SIGMOD, SIGPLAN, SIGSAC, SIGSOFT, SIGSPATIAL Student Research Competitions held at these conferences advanced to compete in the Grand Finals where their research contributions were evaluated, via the web, by the ACM SRC committee members. Financial sponsorship of $120,000 is provided by Microsoft per competition year for the ACM Student Research Competition. The finalists honored represent the best student research of the past year.

The recipients of the ACM Grand Finals are listed below.

Undergraduate Category

1st Place: Tiancheng Sun
University of California, San Diego
GRAPH 17

2nd Place: Patrick Thier
Institut fur Computersprachen Technische Universitat Wien
CGO 18

3rd Place: Ayush Kohli
Southern Illinois University
FSE 17

Graduate Category

1st Place: Meng Li
University of Texas, Austin
ICCAD 17

2nd Place: Jon Gjengset
Massachusetts Institute of Technology
SOSP 17

3rd Place: Daniel George
University of Illinois
SC 17

ACM Fellows

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The ACM Fellows Program was established by Council in 1993 to recognize and honor outstanding ACM members for their achievements in computer science and information technology and for their significant contributions to the mission of the ACM. The ACM Fellows serve as distinguished colleagues to whom the ACM and its members look for guidance and leadership as the world of information technology evolves. The 2017 Fellows are listed below. A complete listing is on pages 37-43, and awards.acm.org/fellows.

Lars Birkedal, Aarhus University
Edouard Bugnion, EPFL
Margaret Burnett, Oregon State University
Shih-Fu Chang, Columbia University
Edith Cohen, Google Research
Dorin Comaniciu, Siemens Healthcare
Susan M. Dray, Dray & Associates
Edward A. Fox, Virginia Tech
Richard M. Fujimoto, Georgia Institute of Technology
Shafi Goldwasser, Massachusetts Institute of Technology
Carla P. Gomes, Cornell University
Martin Grohe, RWTH Aachen University
Aarti Gupta, Princeton University
Venkatesan Guruswami, Carnegie Mellon University
Dan Gusfield, University of California, Davis
Gregory D. Hager, Johns Hopkins University
Steven Michael Hand, Google
Mor Harchol-Balter, Carnegie Mellon University
Laxmikant Kale, University of Illinois at Urbana-Champaign
Michael Kass, NVIDIA
Angelos Dennis Keromytis, DARPA
Carl Kesselman, University of Southern California
Edward Knightly, Rice University
Craig Knoblock, University of Southern California
Insup Lee, University of Pennsylvania
Wenke Lee, Georgia Institute of Technology
Li Erran Li, Pony.ai
Gabriel H. Loh, Advanced Micro Devices, Inc.
Tomás Lozano-Pérez, Massachusetts Institute of Technology
Clifford A. Lynch, Coalition for Networked Information
Yi Ma, University of California, Berkeley

Andrew K. McCallum, University of Massachusetts, Amherst
Silvio Micali, Massachusetts Institute of Technology
Andreas Moshovos, University of Toronto
Gail C. Murphy, The University of British Columbia
Onur Mutlu, ETH Zurich
Nuria Oliver, Vodaphone/Data-Pop Alliance
Balaji Prabhakar, Stanford University
Tal Rabin, IBM Research
K. K. Ramakrishnan, University of California Riverside
Ravi Ramamoorthi, University of California San Diego
Yvonne Rogers, University College London
Yong Rui, Lenovo Group
Bernhard Schölkopf, Max Planck Institute for Intelligent Systems
Steven M. Seitz, University of Washington, Seattle
Michael Sipser, Massachusetts Institute of Technology
Anand Sivasubramaniam, Penn State University
Mani B. Srivistava, University of California, Los Angeles
Alexander Vardy, University of California San Diego
Geoffrey M. Voelker, University of California San Diego
Martin D. F. Wong, University of Illinois at Urbana-Champaign
Qiang Yang, Hong Kong University of Science and Technology
ChengXiang Zhai, University of Illinois at Urbana-Champaign
Aidong Zhang, State University of New York at Buffalo

Additional ACM Awards

Eugene L. Lawler Award for Humanitarian Contributions within Computer Science and Informatics

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Eugene L. Lawler (1933-94), one of the founders of combinatorial optimization, also made significant contributions to algorithmic graph theory, complexity theory, and computational biology. In addition, he encouraged efforts at the University of California at Berkeley to establish the Reentry Program for Women and Minorities, and was the first faculty advisor and effective advocate of this program.

The Lawler Award recognizes an individual or a group who have made a significant humanitarian contribution through the use of computing technology. This biennial endowed award is accompanied by a prize of $5,000 and will next be presented in 2019.

ACM Gordon Bell Prize

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A 12-member Chinese team received the 2017 ACM Gordon Bell Prize for their research project, "18.9-Pflops Nonlinear Earthquake Simulation on Sunway TaihuLight: Enabling Depiction of 18-Hz and 8-Meter Scenarios." Using the Sunway TaihuLight, which is ranked as the world's fastest supercomputer, the team developed software that was able to efficiently process 18.9 Pflops (or 18.9 quadrillion calculations per second) of data and create 3D visualizations relating to a devastating earthquake that occurred in Tangshan, China in 1976. The team's software included innovations that achieved greater efficiency than had been previously attained running similar programs on the Titan and TaihuLight supercomputers.

Winning team members include Haohuan Fu, Tsinghua University and National Supercomputing Center, Wuxi, China; Conghui He, Tsinghua University and National Supercomputing Center, Wuxi, China; Bingwei Chen, Tsinghua University and National Supercomputing Center, Wuxi, China; Zekun Yin, Shandong University; Zhenguo Zhang, Southern University of Science and Technology, China; Wenqiang Zhang, University of Science and Technology of China; Tingjian Zhang, Shandong University; Wei Xue, Tsinghua University and National Supercomputing Center, Wuxi, China; Weiguo Liu, Shandong University; Wanwang Yin, National Research Center of Parallel Computer Engineering and Technology, China; Guangwen Yang, Tsinghua University and National Supercomputing Center, Wuxi, China; and Xioafei Chen, Southern University of Science and Technology, China.

The Gordon Bell Prizes recognize outstanding achievement in high-performance computing. The purpose is to track the progress of parallel computing, with particular emphasis on rewarding innovation in applying high-performance computing to applications in science. The awards, presented during SC, include $10,000 in prize money. The prize is endowed by Gordon Bell, a pioneer in high-performance and parallel computing, and was presented at SC'17 in Denver, Colorado.

ACM – IEEE CS Eckert-Mauchly Award

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Susan Eggers, a Professor Emerita at the University of Washington, was presented with the 2018 ACM IEEE CS Eckert-Mauchly Award. She was selected for outstanding contributions to simultaneous multithreaded processor architectures and multiprocessor sharing and coherency.

The presentation took place at the 45th International Symposium on Computer Architecture (ISCA'18) June 2-6, 2018 in Los Angeles.

Administered jointly by ACM and IEEE Computer Society, an award of $5,000 is given for contributions to computer and digital systems architecture, where the field of computer architecture encompasses hardware-software design and analysis of computing and digital systems.

ACM – IEEE CS Ken Kennedy Award

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Jesús Labarta, Barcelona Supercomputing Center, received the 2017 ACM-IEEE CS Ken Kennedy Award for his contributions to programming models and performance analysis tools for High Performance Computing. The award was presented in November 2017 at SC17 in Denver, Colorado.

The award honors the substantial research, service, and mentoring contributions of Ken Kennedy (1945-2007), the founder of Rice University's computer science program who was one of the world's foremost experts on high-performance computing.

The Kennedy Award recognizes substantial contributions to programmability and productivity in computing and substantial community service or mentoring contributions and includes a $5,000 honorarium. The recipient is invited to give a presentation at an ACM or IEEE conference of the winner's choosing in the year following the announcement.

ACM – IEEE CS George Michael Memorial HPC Fellowships

◆ ◆ ◆

The George Michael Memorial HPC Fellowships were presented to Shaden Smith, University of Minnesota, "for his work on efficient and parallel large-scale sparse tensor factorization for machine learning applications," and Yang You, University of California, Berkeley, "for his work on designing accurate, fast, and scalable machine learning algorithms on distributed systems."

Endowed in memory of George Michael, one of the founding fathers of the SC Conference series, the ACM – IEEE CS George Michael Memorial Fellowships honor exceptional Ph.D. students throughout the world whose research focus areas are in high-performance computing, networking, storage, and large-scale data analysis. ACM, the IEEE Computer Society, and the SC Conference support this award.

Fellowship recipients are selected each year based on overall potential for research excellence, the degree to which technical interests align with those of the HPC community, academic progress to date, recommendations by their advisor and others, and a demonstration of current and anticipated use of HPC resources. The Fellowship includes a $5,000 honorarium, plus travel and registration to receive the award at the annual SC conference. Smith and You were formally recognized at SC'17 in Denver, Colorado in November 2017.

The SIAM – ACM Prize in Computational Science and Engineering

◆ ◆ ◆

This biennial endowed award recognizes individuals for outstanding research contributions to the field of computational science and engineering. Their contributions must be publicly available and may belong to any aspect of computational science in its broadest sense. The award includes a certificate and $5,000 prize. Financial sponsorship is provided by SIAM. The next award will be presented in 2019.

ACM/CSTA Cutler Bell Prize in High School Computing

Sreya Guha
Castilleja School (CA)

Amir Helmy
Eastside High School (FL)

Amy Jin
The Harker School (CA)

Benjamin Spector & Michael Truell
Horace Mann School (NY)

◆ ◆ ◆

This year's Cutler-Bell Prize recipients will be formally recognized at the Computer Science Teachers Association's annual conference which takes place July 7-10, 2018, in Omaha, Nebraska.

The Prize, bestowed by ACM and CSTA (Computer Science Teachers Association), recognizes computer science talent in high school students. The intent of the program is to promote the field of computer science as well as to empower young and aspiring learners to pursue computing challenges outside of the traditional classroom environment. The award was established by David Cutler and Gordon Bell and includes a $10,000 scholarship for each selected student. The award is financially supported by an endowment from the Gordon Bell and David Cutler Endowment Fund.

ACM India Doctoral Dissertation Award

Palash Dey
IISc Bangalore

Manoj Agarwal
IIT Bombay

Swagato Sanyal
Tata Institute, Bombay

◆ ◆ ◆

The ACM India Doctoral Dissertation Award is presented to Palash Dey, for his dissertation, *Resolving the Complexity of Some Fundamental Problems in Computational Social Choice*, nominated by the Indian Institute of Science (IISc), Bangalore.

Honorable Mention for the ACM India Doctoral Dissertation Award is presented to: Manoj Agarwal, for his dissertation, *Data as Graph: Discovery, Search, Retrieval*, nominated by the Indian Institute of Technology Bombay; and Swagato Sanyal, for his dissertation, *Complexity Measures of Boolean Functions: Fourier Sparsity, Fourier Dimension and Query Complexity*, nominated by the Tata Institute of Fundamental Research Mumbai.

The ACM India Doctoral Dissertation Award recognizes the best doctoral dissertation from a degree-awarding institution based in India, and is accompanied by a prize of ₹200,000. The winning dissertation will be published in the ACM Digital Library. This award is additionally supported by the Tata Consultancy Services.

ACM China Doctoral Dissertation Award

Chao Wu
Tsinghua University

Xiaodan Liang
Sun Yat-Sen University

The ACM China Doctoral Dissertation Award is presented to Chao Wu and Xiaodan Liang.

The ACM China Doctoral Dissertation Award recognizes the best doctoral dissertation(s) in computer science and engineering from a degree-awarding institution based in China, for the purpose of encouraging dedicated research and academic achievement. The award, accompanied by a prize of ¥10,000, will be presented at the ACM China Annual Meeting, held each October.

ACM China Rising Star Award

Xiaohua Tian
Shanghai Jiaotong University

Ju Fan
Renmin University of China

The ACM China Rising Star Award is presented to Xiaohua Tian and Ju Fan.

The China Rising Star Award is given annually to recognize rising stars in the Chinese computing community who demonstrate outstanding potential for research in the field of computing. The selection is based on the impact of the candidate's work in the field in creating promising new ideas, paradigms, and novel systems which are related to computer or communications systems, which may be analytical, empirical or experimental in nature. Winners will receive a prize of ¥10,000.

IPSJ/ACM Award for Early Career Contributions to Global Research

Yasuko Matsubara
Kumamoto University

The IPSJ/ACM Award for Early Career Contributions to Global Research is presented to Yasuko Matsubara, Kumamoto University, "for research on analysis of time-series data and nonlinear dynamic systems."

The IPSJ/ACM Award for Early Career Contributions to Global Research recognizes technical achievement by an early to mid-career researcher (10 years or less after receiving his/her doctoral degree). The contributions should be through an international collaboration or a collaboration for which there is reasonable expectation of future international collaboration.

ACM Special Interest Group Awards

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Additional information, including descriptions of the SIG Awards, nomination procedures, where the award is presented, and any prizes attached to the award, is available at awards.acm.org/sig-awards.

SIGACCESS - Accessibility and Computers
- ASSETS Paper Impact Award
- Best Paper Award
- Best Student Paper Award
- Outstanding Contributions to Computing and Accessibility

SIGACT - Algorithms and Computation Theory
- Gödel Prize
- Knuth Prize for Outstanding Contributions to the Foundations of Computer Science Service Prize
- Danny Lewin Best Student Paper Award
- SIGACT/SIGOPS Edsger W. Dijkstra Prize in Distributed Computing
- Distinguished Service Award

SIGAda - Ada Programming Language
- Robert Dewar Award for Outstanding Ada Community Contributions
- Distinguished Service Award

SIGAI - Artificial Intelligence
- Annual Award for Excellence in Autonomous Agent Research
- Industry Award for Excellence in Artificial Intelligence

SIGAPP - Applied Computing
- Distinguished Service Award
- Outstanding Service Award

SIGARCH - Computer Architecture
- Maurice Wilkes Award
- ISCA Influential Paper Award
- Alan D. Berenbaum Distinguished Service Award
- SIGARCH/SIGPLAN/SIGOPS ASPLOS Influential Paper Award

SIGBED - Embedded Systems
- SIGBED Paul Caspi Memorial Dissertation Award
- SIGBED – SIGSOFT Frank Anger Memorial Award
- SIGBED – EMSOFT Best Paper Award
- SIGBED Early Career Researcher Award

SIGBio - Bioinformatics, Computational Biology and Biomedical Informatics
- Best Paper Award
- Best Student Paper Award

SIGCAS - Computers and Society
- Outstanding Service Award
- Making a Difference Award

SIGCHI - Computer-Human Interaction
- SIGCHI Academy
- Lifetime Achievement Award
- Lifetime Practice Award
- Lifetime Research Award
- Lifetime Service Award
- Social Impact Award

SIGCOMM - Data Communication
- Award for Lifetime Achievement
- SIGCOMM Doctoral Dissertation Award for Outstanding Ph.D. Thesis in Computer Networking and Data Communication
- Networking System Award
- Rising Star Award
- Test of Time Paper Award

SIGCSE - Computer Science Education
- Award for Outstanding Contributions to Computer Science Education
- Lifetime Service

SIGDA - Design Automation
- Outstanding Ph.D. Dissertation Award in Electronic Design Automation
- SIGDA IEEE/ACM William J. McCalla ICCAD Best Paper Award
- Outstanding New Faculty Award
- ACM-IEEE A. Richard Newton Technical Impact Award in Electronic Design Automation

SIGDOC - Design of Communication
- Joseph T. Rigo Award
- Diana Award

SIGecom - Electronic Commerce
- Best Paper Award
- Best Full Paper Award with a Student Lead Author
- Doctoral Dissertation Award
- Test of Time Award

SIGEVO - Genetic and Evolutionary Computation
- GECCO Impact Paper Award

SIGGRAPH - Computer Graphics
- Steven A. Coons Award
- Computer Graphics Achievement Award
- Outstanding Service Award
- Significant New Researcher Award
- Distinguished Artist Award for Lifetime Achievement in Digital Art
- Practitioner Award
- SIGGRAPH Academy

SIGHPC- High Performance Computing
- Emerging Woman Leader in Technical Computing

SIGIR - Information Retrieval
- SIGWEB/SIGIR Vannevar Bush Award
- Gerard Salton Award
- Best Paper Award
- Best Student Paper Award
- Test of Time Paper Award

SIGKDD - Knowledge Discovery in Data
- Innovation Award
- Service Award
- Doctoral Dissertation Award
- Test of Time Award

SIGLOG – Logic and Computation
- Alonzo Church Award

SIGMETRICS - Measurement and Evaluation
- Achievement Award
- Kenneth C. Sevcik Outstanding Student Paper Award
- Rising Star Researcher Award
- Test of Time Paper Award

SIGMICRO - Microarchitecture
- Distinguished Service Award

SIGMIS - Management Information Systems
- Magid Igbaria Outstanding Conference Paper of the Year Award

SIGMM - Multimedia
- SIGMM Award for Outstanding Technical Contributions
- SIGMM Award for Outstanding Ph.D. Thesis in Multimedia Computing, Communications and Applications
- SIGMM Rising Star Award

SIGMOBILE - Mobility of Systems, Users, Data & Computing
- Distinguished Service Award
- Doctoral Dissertation Award
- Outstanding Contributions Award to Research on Mobility of Systems, Users, Data and Computing
- Test of Time Paper Award
- RockStar Award

SIGMOD - Management of Data
- Contribution Award
- Edgar F. Codd Innovations Award
- Test of Time Award
- Jim Gray Doctoral Dissertation Award
- PODS Alberto O. Mendelzon Test of Time Award
- SIGMOD Systems Award

SIGOPS - Operating Systems
- SIGOPS Dennis Ritchie Doctoral Dissertation Award for Software Systems Research
- SIGACT/SIGOPS Edsger W. Dijkstra Prize in Distributed Computing

- SIGARCH/SIGPLAN/SIGOPS ASPLOS Influential Paper Award
- Mark Weiser Award
- Hall of Fame Award

SIGPLAN - Programming Languages
- Distinguished Service Award
- Programming Languages Achievement Award
- Programming Languages Software Award
- Most Influential PLDI Paper Award
- Most Influential POPL Paper Award
- Most Influential OOPSLA Paper Award
- Most Influential ICFP Paper Award
- John C. Reynolds Doctoral Dissertation Award
- SIGARCH/SIGPLAN/SIGOPS ASPLOS Influential Paper Award
- SIGPLAN Robin Milner Young Researcher Award
- John Vlissides Award

SIGSAC - Security, Audit and Control
- Outstanding Innovation Award
- Outstanding Contribution Award
- Doctoral Dissertation Award

SIGSAM - Symbolic and Algebraic Manipulation
- Richard D. Jenks Memorial Prize

SIGSIM - Simulation and Modeling
- Distinguished Contribution Award

SIGSOFT - Software Engineering
- SIGBED – SIGSOFT Frank Anger Memorial Award
- Distinguished Service Award
- Influential Educator Award
- SIGSOFT Outstanding Doctoral Dissertation Award
- Outstanding Research Award
- SIGSOFT/IEEE TCSE ICSE Most Influential Paper Award
- SIGSOFT Impact Paper Award
- Early Career Researcher Award

SIGSPATIAL – Spatial Information
- Best Paper
- Ten Year Impact Award

SIGUCCS - University and College Computing Services
- Penny Crane Award for Distinguished Service

SIGWEB - Hypertext, Hypermedia and Web
- Douglas Engelbart Best Paper Award
- SIGWEB/SIGIR Vannevar Bush Award
- Ted Nelson Newcomer Award
- DocEng Best Paper Award

SIG Governing Board
- Kenneth E. Iverson Award for Outstanding Contributions in Array Languages

2017 ACM Award Subcommittee Chairs

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A. M. Turing
Alfred Z. Spector, AZS Services

ACM Prize in Computing
Kathleen McKeown, Columbia University

Distinguished Service
Mukesh Mohania, IBM Research Australia

ACM Athena Lecturer
Diane Souvaine, Tufts University

Outstanding Contribution to ACM
P.J. Narayanan, IIIT

Software System
Edouard Bugnion, EPFL

Grace Murray Hopper
Mary Czerwinski, Microsoft Research

Doctoral Dissertation
Dieter Van Melkebeek, University of Wisconsin

ACM - IEEE CS Eckert-Mauchly
Avi Mendelson, Technion – Israel Institute of Technology

Karl V. Karlstrom Outstanding Educator
Hal Abelson, Massachusetts Institute of Technology

ACM - AAAI Allen Newell
Francesca Rossi, University of Pisa

Eugene L. Lawler Award for Contributions within Computer Science and Informatics
Dan Gusfield, University of California, Davis

Paris Kanellakis Theory and Practice
Tandy Warnow, University of Illinois, Urbana–Champaign

ACM - IEEE CS Ken Kennedy
Kathy Yelick, Lawrence Berkeley National Laboratory

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Barry Wittman, Elizabethtown College

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Senior Members
Nancy Amato, Texas A&M University

Gordon Bell Prizes
Subhash Saini, NASA Ames Research Center

SIAM – ACM Prize in Computational Science and Engineering
James Demmel, University of California, Berkeley

ACM – IEEE CS George Michael Memorial HPC Fellowship Committee
Michela Taufer, University of Delaware

ACM Award Nomination Submission Procedures

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Nominations for the awards presented at the June Awards Banquet are due **January 15, 2019**, but other awards are presented throughout the year.

For ACM Fellows, the deadline is **September 7, 2018.** For ACM Distinguished Members it is **August 1, 2018.** For Senior Members it is **September 3, 2018.** Nomination forms and guidelines will be found on the awards site under "Advanced Grades of Membership." **https://awards.acm.org/advanced-member-grades**

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For information about the nomination process and the deadline for each award, please visit **https://awards.acm.org/award-nominations**

Please visit *awards.acm.org*, for additional details about the ACM awards program, or contact:

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◆ ◆ ◆

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ACM Prize in Computing

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Tandy Warnow

Karl V. Karlstrom Outstanding Educator

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Eugene L. Lawler (Biennial)

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Ravi Sethi
Diane Souvaine

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Carla Ellis

Doctoral Dissertation

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Nick Feamster
Piotr Indyk
Anne-Marie Kermarrec
Jose Moreira
Brad Myers
Dan Suciu

2018 ACM Award Subcommittee Chairs and Members

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ACM-IEEE CS George Michael Memorial HPC Fellows Committee

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Bronis de Supinski
Katrin Heitmann
Michael A. Heroux
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Kenjiro Taura

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Laura Haas
Randy Katz
Joseph Konstan
James Larus
Bart Selman
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Marc Snir
Mikkel Thorup
Alexander L. Wolf

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Cristina Videira Lopes

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Ewa Deelman
Philip Roth
Michela Taufer

Intel International Science and Engineering Fair

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Members:
Fred Martin
Jan Vahrenhold
Barry Wittman

SIAM – ACM Prize in Computational Science and Engineering

c/o Joanna Littleton
SIAM
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Linda Petzold, Chair
University of California,
Santa Barbara
Petzold@cs.ucsb.edu
Members:
Geoffrey Fox
David Keyes

Past Recipients

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A.M. Turing Award
1966 A. J. Perlis
1967 Maurice V. Wilkes
1968 Richard Hamming
1969 Marvin Minsky
1970 J.H. Wilkinson
1971 John McCarthy
1972 E.W. Dijkstra
1973 Charles W. Bachman
1974 Donald E. Knuth
1975 Allen Newell
1975 Herbert A. Simon
1976 Michael O. Rabin
1976 Dana S. Scott
1977 John Backus
1978 Robert W. Floyd
1979 Kenneth E. Iverson
1980 C. Antony R. Hoare
1981 Edgar F. Codd
1982 Stephen A. Cook
1983 Ken Thompson
1983 Dennis M. Ritchie
1984 Niklaus Wirth
1985 Richard M. Karp
1986 John Hopcroft
1986 Robert Tarjan
1987 John Cocke
1988 Ivan Sutherland
1989 William (Velvel) Kahan
1990 Fernando J. Corbató
1991 Robin Milner
1992 Butler Lampson
1993 Juris Hartmanis
1993 Richard E. Stearns
1994 Edward A. Feigenbaum
1994 Raj Reddy
1995 Manuel Blum
1996 Amir Pnueli
1997 Douglas Engelbart
1998 James N. Gray
1999 Frederick P. Brooks, Jr.
2000 Andrew C. Yao
2001 Ole-Johan Dahl
2001 Kristen Nygaard
2002 Leonard Adleman
2002 Ronald Rivest
2002 Adi Shamir
2003 Alan Kay
2004 Vinton G. Cerf
2004 Robert E. Kahn

2005 Peter Naur
2006 Frances E. Allen
2007 Edmund Clarke
2007 E. Allen Emerson
2007 Joseph Sifakis
2008 Barbara Liskov
2009 Charles Thacker
2010 Leslie G. Valiant
2011 Judea Pearl
2012 Shafi Goldwasser
2012 Silvio Micali
2013 Leslie Lamport
2014 Michael Stonebreaker
2015 Whitfield Diffie
2015 Martin E. Hellman
2016 Sir Tim Berners-Lee

ACM Prize in Computing*
2007 Daphne Koller
2008 Jon Kleinberg
2009 Eric Brewer
2010 Frans Kaashoek
2011 Sanjeev Arora
2012 Jeffrey Dean
2012 Sanjay Ghemawat
2013 David Blei
2014 Dan Boneh
2015 Stefan Savage
2016 Alexei A. Efros
*Formerly the ACM-Infosys
Award In the Computing
Sciences

Software System Award
1983 **UNIX**
Ken Thompson
Dennis M. Ritchie
1984 **Xerox Alto Systems**
Butler W. Lampson
Robert W. Taylor
Charles P. Thacker
1985 **VisiCalc**
Daniel Bricklin
Robert Frankston
1986 **TeX**
Donald E. Knuth
1987 **SMALLTALK**
Alan C. Kay
Daniel H.H. Ingalls, Jr.
Adele Goldberg

1988 **SystemR**
Donald Chamberlin
James N. Gray
Raymond Lorie
Gianfranco Putzolu
Patricia Selinger
Irving Traiger
1988 **INGRES**
Gerald Held
Michael Stonebraker
Eugene Wong
1989 **PostScript**
John E. Warnock
Charles M. Geschke
William H. Paxton
Douglas K. Brotz
Edward A. Taft
1990 **NLS**
Douglas C. Engelbart
William K. English
Johns F. Rulifson
1991 **TCP/IP**
Vinton G. Cerf
Robert E. Kahn
1992 **Interlisp**
Daniel G. Bobrow
Richard R. Burton
L. Peter Deutsch
Ronald M. Kaplan
Larry Masinter
Warren Teitelman
1993 **Sketchpad**
Ivan Sutherland
1994 **Remote Procedure Call**
Andrew Birrell
Bruce Nelson
1995 **World-Wide Web**
Tim Berners-Lee
Robert Cailliau
1995 **NCSA Mosaic**
Marc Andreessen
Eric Bina
1996 no award given
1997 **Tcl/tk**
John Ousterhout
1998 **S System**
John M. Chambers
1999 **Apache**
Brian Behlendorf
Roy T. Fielding

Rob Hartill
David Robinson
Cliff Skolnick
Randy Terbush
Robert S. Thau
Andrew Wilson
2000 no award given
2001 **SPIN Verification
System**
Gerard Holzmann
2002 **Java**
James A. Gosling
2002 **Make**
Stuart Feldman
2004 **SNP**
Raghuram Bindignavle
Simon S. Lam
Shaowen Su
Thomas Y. C. Woo
2005 **Boyer-Moore Theorem
Prover**
Robert S. Boyer
Matt Kaufmann
J Strother Moore
2006 **Eiffel**
Bertrand Meyer
2007 **Statemate**
David Harel
Hagi Lachover
Amnon Naamad
Amir Pnueli
Michal Politi
Rivi Sherman
Mark Trakhtenbrot
Aron Trauring
2008 **Gamma Parallel
Database System**
David J. DeWitt
Robert Gerber
Shahram
   Ghandeharizadeh
Goetz Graefe
Michael Heytens
Hui-I Hsiao
Murali M. Krishna
Jeffrey F. Naughton
Donovan A. Schneider
Anoop Sharma

2009 **VMware Workstation 1.0**
Edouard Bugnion
Scott Devine
Mendel Rosenblum
Jeremy Sugarman
Edward Wang
2010 **GroupLens
Collaborative Filtering
Recommender Systems**
Peter Bergstrom
Lee Gordon
Jonathan Herlocker
Neophytos Iacovou
Joseph A. Konstan
Shyong (Tony) Lam
David Maltz
Sean McNee
Bradley Miller
Paul Resnick
John Riedl
Mitesh Suchak
2011 **Eclipse**
Gregory Adams
John Duimovich
Erich Gamma
Kevin Haaland
Julian Jones
Philippe Mulet
Steve Northover
Dave Thomson
John Wiegand
2012 **LLVM**
Vikram Adve
Evan Cheng
Chris Lattner
2013 **Coq**
Bruno Barras
Yves Bertot
Pierre Castéran
Thierry Coquand
Jean-Christophe Filliâtre
Hugo Herbelin
Gerard P. Huet
Chetan Murthy
Christine Paulin-
Mohring
2014 **MACH**
Rick Rashid
Avadis (Avie) Tevanian

2015 **GCC (GNU Compiler
Collection)**
Richard Stallman
2016 **Andrew File System
(AFS)**
John H. Howard
Michael L. Kazar
David A. Nichols
Sherri M. Nichols
Mahadev Satyanarayanan
Robert N. Sidebotham
Alfred Z. Spector
Michael J. West
(posthumously)

Programming Systems and Languages Paper Award*
1971 Peter Lucas
Kurt Walk
1971 Peter J. Denning
1971 Edsger W. Dijkstra
1971 Jan Gecsei
Richard L. Mattson
Donald R. Slutz
Irving Traiger
1971 John C. Reynolds
1972 no award given
1973 C.A.R. Hoare
1974 Zohar Manna
Stephen Ness
Jean Vuillemin
1975 Daniel G. Bobrow
Ben Wegbreit
1975 Dennis Ritchie
Kenneth Thompson
1976 John Cocke
Frances E. Allen
1977 David Gries
Susan Owicki
1978 Niklaus Wirth
1979 David L. Parnas
1980 no award given
1981 no award given
1982 James N. Gray
Paul McJones
Michael Blasgen
Bruce Lindsay
Raymond Lorie
Thomas Price

Past Recipients

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Gianfranco Putzolu
Irving Traiger
* This award was replaced in 1983 by the Software System Award

Grace Murray Hopper Award

1971 Donald E. Knuth
1972 Paul E. Dirksen
1972 Paul H. Cress
1973 Lawrence Breed
1973 Richard Lathwell
1973 Roger Moore
1974 George N. Baird
1975 Allen L. Scherr
1976 Edward H. Shortliffe
1977 no award given
1978 Raymond Kurzweil
1979 Stephen Wozniak
1980 Robert M. Metcalfe
1981 Daniel S. Bricklin
1982 Brian K. Reid
1984 Daniel H.H. Ingalls, Jr.
1985 Cordell Green
1986 William N. Joy
1987 John K. Ousterhout
1988 Guy L. Steele
1989 W. Daniel Hillis
1990 Richard Stallman
1991 Feng-hsiung Hsu
1992 no award given
1993 Bjarne Stroustrup
1994 no award given
1995 no award given
1996 Shafrira Goldwasser
1997 no award given
1998 no award given
1999 Wen-mei Hwu
2000 Lydia Kavraki
2001 George Necula
2002 Ramakrishnan Srikant
2003 Stephen W. Keckler
2004 Jennifer Rexford
2005 Omer Reingold
2006 Daniel Klein
2007 Vern Paxson
2008 Dawson Engler
2009 Tim Roughgarden
2010 Craig Gentry

2011 Luis von Ahn
2012 Martin Casado
2012 Dina Katabi
2013 Pedro Felzenszwalb
2014 Sylvia Ratnasamy
2015 Brent Waters
2016 Jeffrey Heer

Allen Newell Award

1994 Frederick P. Brooks, Jr.
1995 Joshua Lederberg
1996 no award given
1997 Carver Mead
1998 Saul Amarel
1999 Nancy Leveson
2000 Lotfi Zadeh
2001 Ruzena Bajcsy
2002 Peter Chen
2003 David Haussler
2003 Judea Pearl
2004 Richard P. Gabriel
2005 Jack Minker
2006 Karen Spärck Jones
2007 Leonidas Guibas
2008 Joseph Y. Halpern
2008 Barbara J. Grosz
2009 Michael I. Jordan
2010 Takeo Kanade
2011 Stephanie Forrest
2012 Yoav Shoham
2012 Moshe Tennenholtz
2013 no award given
2014 Jon Kleinberg
2015 Eric Horvitz
2016 Jitendra Malik

Paris Kanellakis Theory and Practice Award

1996 Leonard Adleman
1996 Whitfield Diffie
1996 Martin Hellman
1996 Ralph Merkle
1996 Ronald Rivest
1996 Adi Shamir
1997 Abraham Lempel
1997 Jacob Ziv
1998 Randal Bryant
1998 Edmund M. Clarke, Jr.
1998 E. Allen Emerson
1998 Kenneth McMillan

1999 Daniel Sleator
1999 Robert Tarjan
2000 Narendra Karmarkar
2001 Gene Myers
2002 Peter A. Franaszek
2003 Gary Miller
2003 Michael Rabin
2003 Robert Solovay
2003 Volker Strassen
2004 Yoav Freund
2004 Robert Schapire
2005 Gerard Holzmann
2005 Robert Kurshan
2005 Moshe Vardi
2005 Pierre Wolper
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2015 Michael G. Luby
2016 Amos Fiat
2016 Moni Naor

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1990 Gerald Jay Sussman
1991 David A. Patterson
1992 David Harel
1993 Andries van Dam
1994 Andrew Tanenbaum
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1996 Peter Denning
1997 Jeffrey Ullman
1998 Avi Silberschatz
1999 Randy H. Katz
2000 Yale Patt
2001 Nell B. Dale
2002 John T. Gorgone

2003 Sartaj Sahni
2004 no award given
2005 Stuart J. Russell
2006 no award given
2007 Randy Pausch
2008 John Hopcroft
2009 Matthias Felleisen
2010 Barbara Ericson
2010 Mark Guzdial
2011 Hal Abelson
2012 Eric S. Roberts
2013 Susan Rodger
2014 William A. Wulf
2015 Armando Fox
2016 Owen Astrachan

Eugene L. Lawler Award for Humanitarian Contributions within Computer Science and Informatics

1999 Antonia Stone
2001 John Blitch
2003 Patrick Ball
2005 Albrecht Ehrensperger
2005 Solomon Mbuguah
2005 Ernest Siva
2007 Randolph Y. Wang
2009 Gregory Abowd
2012 Thomas Bartoschek
2012 Johannes Schöning
2014 Robin Roberson Murphy
2016 Ken Banks

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1970 Franz L. Alt
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1972 George E. Forsythe (posthumously)
1973 William Atchison
1974 Saul Gorn
1975 John W. Carr III
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1978 Eric A. Weiss
1979 Carl Hammer
1980 Bernard Galler
1981 Aaron Finerman
1982 Anthony Ralston

1983 Grace Murray Hopper
1984 Saul Rosen
1985 Jean Sammet
1986 Clair Maple (posthumously)
1987 Frederick P. Brooks, Jr.
1988 Charles L. Bradshaw
1989 Peter J. Denning
1990 Walter M. Carlson
1991 Gerald L. Engel
1992 Joyce Currie Little
1993 J.A.N. Lee
1994 no award given
1995 Doris Lidtke
1996 Hal Berghel
1997 David H. Brandin
1998 no award given
1999 Anita Borg
2000 Peter Wegner
2001 Won Kim
2002 Raymond E. Miller
2003 Ruzena Bajcsy
2004 E. G. Coffman
2005 Mary Jane Irwin
2006 Susan L. Graham
2007 David A. Patterson
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1990 David Heckerman
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1992 Mendel Rosenblum
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1994 David Karger
1994 T. V. Raman
1995 Sanjeev Arora
1995 Daniel A. Spielman
1996 Xiaoyuan Tu
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1997 Steven McCanne
1998 Hari Balakrishnan
1999 Dieter van Melkebeek
2000 Salil Vadhan
2001 Ion Stoica
2002 Venkatesan Guruswami
2003 AnHai Doan
2004 Boaz Barak
2005 Ben Liblit
2006 Yi-Ren Ng
2007 Sergey Yekhanin
2008 Constantinos Daskalakis
2009 Craig Gentry
2010 Bryan Parno
2011 Seth Cooper
2012 Shyamnath Gollakota
2013 Sanjam Garg
2014 Matei Zaharia
2015 Julian Shun
2016 Haitham Hassanieh

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1979 M. Stuart Lynn
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1992 James M. Adams
1992 Lorraine Borman
1992 Peter Neumann
1993 John H. Esbin
1993 Frank L. Friedman
1994 John R. White
1994 A. Joseph Turner
1995 Robert Aiken
1996 Stuart H. Zweben
1997 Robert L. Ashenhurst
1998 Peter J. Denning
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2000 Hal Berghel
2001 Barbara Simons
2002 Patricia M. Ryan
2003 Mark Scott Johnson
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2005 Don Gotterbarn
2006 David S. Wise
2007 Robert A. Walker
2008 Wayne Graves
2008 Bernard Rous
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2011 Calvin C. (Kelly) Gotlieb
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2014 Dame Wendy Hall
2015 No award given
2016 Valerie Barr

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1979 Robert S. Barton
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1983 Tom Kilburn
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1985 John Cocke
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1987 Gene M. Amdahl
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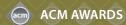Zhengyou Zhang
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