A.W.A.R.D.S



ACM AWARDS

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.

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 30 in this booklet.

The awards included in this overview honor recipients of ACM's 2022 awards, which are being presented at the ACM Awards Banquet on June 10, 2023, at The Palace Hotel in San Francisco, California.

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

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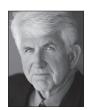


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CRA Awards

A.M. Turing Award



Bob MetcalfeUniversity of Texas at Austin
Massachusetts Institute of Technology

The A.M. Turing Award is presented to Robert M. Metcalfe for the invention, standardization, and commercialization of Ethernet.

In 1973, while a computer scientist at the Xerox Palo Alto Research Center (PARC), Metcalfe circulated a now-famous memo describing a "broadcast communication network" for connecting some of the first personal computers, PARC's Altos, within a building. Metcalfe's Ethernet design incorporated insights from his experience with ALOHAnet, a pioneering computer networking system developed at the University of Hawaii. Metcalfe recruited David Boggs (d. 2022), a co-inventor of Ethernet, to help build a 100-node PARC Ethernet. That first Ethernet was then replicated within Xerox to proliferate a corporate internet.

After leaving Xerox in 1979, Metcalfe remained the chief evangelist for Ethernet and continued to guide its development while working to ensure industry adoption of an open standard. He led an effort by Digital Equipment Corporation (DEC), Intel, and Xerox to develop a 10Mbps Ethernet specification—the DIX standard. The IEEE 802 committee was formed to establish a local area network (LAN) standard. A slight variant of DIX became the first IEEE 802.3 standard, which is still vibrant today.

Today, Ethernet is the main conduit of wired network communications around the world, handling data rates from 10 Mbps to 400 Gbps, with 800 Gbps and 1.6 Tbps technologies emerging.

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. 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



Yael Tauman Kalai Microsoft Research Massachusetts Institute of Technology

The ACM Prize in Computing is presented to Yael Tauman Kalai for breakthroughs in verifiable delegation of computation and fundamental contributions to cryptography.

Kalai has developed methods for producing succinct proofs that certify the correctness of any computation. This method enables a weak device to offload any computation to a stronger device in a way that enables the results to be efficiently checked for correctness. Such succinct proofs have been used by numerous blockchain companies (including Ethereum) to certify transaction validity and thereby overcome key obstacles in blockchain scalability, enabling faster and more reliable transactions. Kalai's research has provided essential definitions, key concepts, and inventive techniques to this domain.

Kalai's other important contributions include her breakthrough work on the security of the "Fiat-Shamir paradigm," a general technique for eliminating interaction from interactive protocols. This paradigm is extensively utilized in real-world applications, including in the most prevalent digital signature scheme (ECDSA), which is used by all iOS and Android mobile devices. In addition, she co-pioneered the field of leakage resilient cryptography and solved a long-standing open problem in interactive coding theory, showing how to convert any interactive protocol into one that is resilient to a constant fraction of adversarial errors.

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 an endowment from Infosys Ltd.

ACM Charles P. "Chuck" Thacker Breakthrough in Computing Award



David B. Papworth
Intel (retired)

The ACM Charles P. "Chuck" Thacker Breakthrough in Computing Award is presented to David B. Papworth. Papworth is recognized for fundamental groundbreaking contributions to Intel's P6 out-of-order engine and Very Long Instruction Word (VLIW) processors.

Papworth was a lead designer of the Intel P6 (sold commercially as the Pentium Pro) microprocessor, which was a major advancement over the existing state-of-the-art not just for Intel but for the broader computer design community. P6 introduced a new microarchitectural paradigm of decomposing complex x86 instructions into sequences of micro-operations that flowed through a micro data flow engine, constrained only by true data dependencies and machine resources. Surprising to many, this scheme, which is still in use today, also enabled significantly higher clock rates.

The P6 team successfully navigated the thousands of design tradeoffs required of a modern processor in a timely way while striking competitive balances among cost, performance, power, and schedule. That P6 was a runaway success for Intel is clear in that Intel's cores today, 30+ years later, still use the same paradigm along with many of the architectural improvements shepherded by Papworth in 1992.

The ACM Charles P. "Chuck" Thacker Breakthrough in Computing Award recognizes individuals or groups who have made surprising, disruptive, or leapfrog contributions to computing ideas or technologies. Recipients of the award are expected to give the ACM Breakthrough Lecture at a major ACM conference. The award is accompanied by a \$100,000 cash prize, with financial support provided by Microsoft.



ACM – AAAI Allen Newell Award



Bernhard Schölkopf
Max Planck Institute for
Intelligent Systems
FTH Zurich



Stuart J. Russell University of California at Berkeley

Schölkopf is recognized for his widely used research in machine learning, advancing both mathematical foundations and a broad range of applications in science and industry. He has made fundamental contributions to kernel methods and causality. His contributions to kernel PCA and kernel embeddings have advanced fundamental statistical methodology in dimensionality reduction and hypothesis testing. Professor Schölkopf and his team have advanced numerous areas of applied machine learning, including applications to astronomy, biology, computer vision, robotics, neuroscience, and cognitive science. Schölkopf's pioneering work in causal machine learning has laid the foundation for a novel understanding of learning causal relationships from data, with implications for all areas of science.

Russell is recognized for a series of foundational contributions to Artificial Intelligence, spanning a wide range of areas such as logical and probabilistic reasoning, knowledge representation, machine learning, reinforcement learning, and the ethics of AI. Early in his career, Russell defined and studied the concept of bounded optimality, for which he received the 1995 IJCAI Computers and Thought Award. His book, *Artificial Intelligence: A Modern Approach* (co-authored with Peter Norvig), is the preeminent textbook for AI. It has been used for decades to train AI students in more than 1,500 universities all over the world. Russell's work on BLOG (Bayesian Logic) led to the creation of the NETVISA global seismic monitoring algorithm that has the capability to reliably detect and accurately localize nuclear explosions. In recent years he has also become an influential figure in addressing ethical issues in AI.

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



Gernot Heiser University of New South Wales



Gerwin Klein Proofcraft



Harvey Tuch Google



Kevin Elphinstone University of **New South Wales**



June Andronick Proofcraft



David Cock FTH Zurich



Philip Derrin Oualcomm



Dhammika Elkaduwe University of Peradeniva



Kai Engelhardt



Toby Murray University of Melbourne



Rafal Kolanski Proofcraft



Michael Norrish Australian National University



Thomas Sewell University of Cambridge



Simon Winwood Galois

An international team receives the ACM Software System Award for the development of the first industrial-strength, high-performance operating system to have been the subject of a complete, mechanically-checked proof of full functional correctness.

In 2009, the Software System Awardees presented the seL4 microkernel, which became the first ever industrial-strength, general-purpose operating system with formally proved implementation correctness. In subsequent years, the team further added proofs that seL4 enforces the core security properties of integrity and confidentiality, extended the proof to the binary code of the kernel, and performed the first sound and complete worst-case execution-time analysis of a protected mode OS.

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



Mohammad AlizadehMassachusetts Institute of Technology

Mohammad Alizadeh, Massachusetts Institute of Technology, is the recipient of the 2022 ACM Grace Murray Hopper Award for pioneering and impactful contributions to datacenter networks.

Alizadeh has fundamentally advanced how datacenters communicate efficiently in transporting data. One of his key contributions is the control of datacenter network congestion and packet loss with a groundbreaking Data Center Transport Control Protocol (DCTCP). DCTCP significantly increases performance in datacenter environments where state-of-the-art TCP protocols fall short.

The theoretical foundation upon which DCTCP is built and the empirical analyses, novel algorithms, and explicit congestion notification techniques it leverages enable data packets to circumvent congestion while using significantly less buffer space. In essence, DCTCP changes the way that network endpoints process congestion signals obtained from within the network, enabling traffic bursts to be tolerated better and leading to reduced transport latency, higher data throughput, and greater network utilization.

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



Michael Burrows
Google



Paolo Ferragina University of Pisa



Giovanni Manzini University of Pisa

Michael Burrows, Google; Paolo Ferragina, University of Pisa; and Giovanni Manzini, University of Pisa, receive the ACM Paris Kanellakis Theory and Practice Award for inventing the BW-transform and the FM-index that opened and influenced the field of Compressed Data Structures with fundamental impact on Data Compression and Computational Biology.

In 1994, Michael Burrows and his late coauthor David Wheeler published their paper describing revolutionary data compression algorithm based on a reversible transformation of the input. This transformation, which became known as the "Burrows-Wheeler Transform" (BWT), was used as the core of the compressor bzip2. bzip2 achieved compression performance superior to the standard of the time.

A few years later, Paolo Ferragina and Giovanni Manzini showed that, by orchestrating the BWT with a new set of mathematical techniques and algorithmic tools, it became possible to build a "compressed index," later called the FM-index. Before the FM-index, it seemed unavoidable to incur a significant space penalty for achieving efficient queries. With the FM-index, Ferragina and Manzini were able to disprove this common belief. In addition to being a theoretical breakthrough, the simplicity and effectiveness of the FM-index has made it a premier indexing choice for software tools working on large collections of unstructured data, with the most impressive applications in the field of DNA alignment and Computational Biology in general.

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.



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



Jelani Nelson University of California at Berkeley

Jelani Nelson of the University of California at Berkeley receives the ACM Eugene L. Lawler Award for Humanitarian Contributions within Computer Science and Informatics for founding and growing AddisCoder, a nonprofit organization which teaches programming to underserved students from all over Ethiopia. AddisCoder has led many students to higher education and successful careers.

In 2011, Nelson founded AddisCoder to provide a free intensive summer program for high school students in Addis Ababa, Ethiopia. The program has shown exemplary efficacy in fostering the academic and professional development of over 500 high school students. AddisCoder's student body is 40% female, includes students from each of the 11 eleven regions in Ethiopia, students from ethnic minorities, and students living in poverty.

Upon joining the program, many of the participating students have little or no background in programming or algorithms. In just four short weeks, the students gain significant knowledge. The program rigorously covers college-level material in algorithms, such as binary search and sorting, dynamic programming, and graph exploration. Alumni have matriculated in programs at universities including Harvard, MIT, and Princeton, and some students have joined well-known companies such as Google.

Nelson has not only been an AddisCoder teacher himself, but he has recruited a large team of teachers and raised money from government, industry and academic institutions to fund the initiative. He is currently working to expand the program to other underserved regions of the world.

The ACM 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. The award is accompanied by a prize of \$5,000.

Karl V. Karlstrom Outstanding Educator Award



Michael E. Caspersen It-vest, Aarhus University

Michael E. Caspersen, Managing Director of It-vest and Honorary Professor, Aarhus University, receives the Karl V. Karlstrom Outstanding Educator Award for his contributions to computer science education research, for his policy work at the national and international levels to advance the teaching of informatics for all, and for his outstanding service to the computing education community.

Caspersen has almost 70 papers on computer science education. He is co-author of a two-volume textbook on programming, and co-editor of *Reflections on the Teaching of Programming*, published by Springer-Verlag, 2008—a novel and innovative collection of contributions that address all aspects of teaching programming.

Since 2008, Caspersen has been heavily involved in the development of the new informatics subject for Danish high schools and associated teacher education. By personal invitation of the Minister of Education he has served in pivotal roles as chair and co-chair of groups developing an informatics curriculum for primary and lower secondary education.

He is a member of the Board of Informatics Europe, co-founder and chair of the steering committee for the Informatics for All coalition, and he was Co-Chair of the Committee on European Computing Education established jointly by ACM Europe and Informatics Europe.

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.



Distinguished Service Award



Ramesh JainUniversity of California, Irvine

Ramesh Jain, Professor, University of California, Irvine, receives the ACM Distinguished Service Award for establishing the ACM Special Interest Group on Multimedia Systems (ACM SIGMM), and for outstanding leadership and persistent services to ACM and the computing community for the past four decades.

In 1993, Jain organized the first NSF workshop on visual information management systems, was one of the organizing committee members of the first ACM Multimedia conference, and gave a tutorial at that conference which was held in conjunction with ACM SIGGRAPH that year. All of these activities paved the way for the successful establishment of ACM SIGMM.

Since then, Jain remains an active contributor to ACM Multimedia Computing. He has been on the organizing committees of almost all the past 25 ACM Multimedia Conferences. Additionally, he organized special issues of *Communications of the ACM* on visual computing, served as founding editor-in-chief of *IEEE Multimedia* magazine, organized numerous workshops, served on editorial boards of almost all multimedia-related journals, and helped ACM SIGMM in many ways, including chairing it from 2003 to 2007.

For his contributions and service, Jain has received numerous awards, and has been recognized as a Fellow of the Association for Computing Machinery (ACM), the American Association for the Advancement of Science (AAAS), Association for the Advancement of Artificial Intelligence (AAAI), Institute of Electrical and Electronics Engineers (IEEE), the international society for optics and photonics (SPIE), and the International Association of Pattern Recognition (IAPR).

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.

Outstanding Contribution to ACM Award



Joseph A. Konstan University of Minnesota

Joseph A. Konstan, Professor, University of Minnesota, receives the Outstanding Contribution to ACM Award for twenty-five years of dedicated service and leadership in support of ACM's mission and operation, and the advancement of ACM's research, education, and practitioner communities.

Konstan has been involved in ACM's activities for over 25 years: participating in, developing and nurturing new technical areas, serving on key task forces and committees, and leading several of ACM's major Boards and working groups. He has demonstrated a volunteer spirit that has been an example and inspiration for others who have had the opportunity to work with him. His long involvement in and deep insight into ACM's operation and governance has made him a trusted source of advice for ACM's elected leadership, volunteers, and staff.

Konstan's service started in 1994 within ACM SIGCHI's conferences, eventually becoming SIGCHI's President (2003-2006) and chair of the SIG Governing Board (2006-2008) and as a member of ACM's Executive Committee. During that time, he served on a task force on the future of ACM-W.

As co-chair of the Publications Board (2013-2022), Konstan served on ACM's Extended Executive Committee, providing insightful advice and recommendations to the elected leadership. In that regard, he served on ACM's Strategic Planning Workgroup (2013–2014), which set the priorities and roadmap for ACM's continued growth and development. He also served on the task force on the future of the *Journal of the ACM*, chaired the task force on ACM's future directions in Health and Medical Informatics, and ACM's Strategic Planning Working Group.

Konstan is hailed by colleagues for his efforts to bring people together to make the best decisions for ACM and the communities it serves. His many contributions to ACM have been, and no doubt will continue to be, outstanding.

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 may be given to up to three individuals each year.



ACM Athena Lecturer Award



Margo Seltzer
University of British Columbia

Margo Seltzer, a Professor at the University of British Columbia, has been named the 2023-2024 ACM Athena Lecturer. Seltzer is recognized for foundational research in file and storage systems, pioneering research in data provenance, impactful software contributions in Berkeley DB, and tireless dedication to service and mentoring.

In 1992, while studying at the University of California at Berkeley, Seltzer, along with Keith Bostic and Mike Olson, introduced Berkeley DB, a database software library. Berkeley DB underpinned a range of first-generation Internet services including account management, mail servers, and online trading platforms. This software has been a part of many popular operating systems including Linux, FreeBSD, Apple's OSX, and the GNU standard C library (glibc). Originally developed as an open-source library, Seltzer and Bostic founded Sleepycat Software in 1996 to continue the development of Berkeley DB and provide commercial support. Berkeley DB was an early and influential example of the NoSQL movement and pioneered the "dual license" approach to software licensing.

Seltzer later pioneered whole-system data provenance, a paradigm that provides system support for assessing the quality of information by understanding where the data comes from, who is using the data, and how it was obtained. She is also known for her careful and nuanced work in log-structured file systems, where she adapted various approaches for use in the UNIX file systems and updates of file system metadata.

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 Two Sigma.

ACM Doctoral Dissertation Award

The Doctoral Dissertation Award is presented to Aayush Jain for his dissertation "Indistinguishability Obfuscation from Well-Studied Assumptions," toward a PhD earned at the University of California, Los Angeles.

Honorable Mentions for the Doctoral Dissertation Award are presented to: Alane Suhr, for her dissertation "Reasoning and Learning in Interactive Natural Language Systems," toward a PhD earned at Cornell University; and Conrad Watt, for his dissertation, "Mechanising and evolving the formal semantics of WebAssembly: the Web's new low-level language" toward a PhD earned at The University of Cambridge.

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. Winning dissertations will be published in the ACM Digital Library as part of the ACM Book Series.



ACM Fellows

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 2022 Fellows are listed below. A complete listing is on pages 41-51, and awards.acm.org/fellows.

Maneesh Agrawala, Stanford University Anima Anandkumar, California Institute of Technology

David Atienza Alonso, EPFL Boaz Barak, Harvard University Michel Beaudouin-Lafon, Université Paris-Saclay

Peter Boncz, Centrum Wiskunde & Informatica (CWI), Vrije Universiteit Amsterdam Luis H. Ceze, University of Washington Ranveer Chandra, Microsoft Nitesh Chawla, University of Notre Dame

Ed H. Chi, Google

Corinna Cortes, Google

Bill Curtis, CAST Software/ Consortium for Information and Software Quality (CISQ) **Constantinos Daskalakis,** Massachusetts

Institute of Technology

Kalyanmoy Deb, Michigan State University Bronis R. de Supinski, Lawrence Livermore National Laboratory

Sebastian Elbaum, University of Virginia **Yuguang "Michael" Fang,** City University of Hong Kong

Kevin Fu, Northeastern University **Craig Gotsman,** New Jersey Institute of Technology

Ahmed E. Hassan, Queen's University Abdelsalam (Sumi) Helal, University of Florida Jörg Henkel, Karlsruhe Institute of Technology Manuel V. Hermenegildo, Universidad Politecnica de Madrid & IMDEA SW Institute Michael Hicks, University of Maryland,

Amazon Web Services **Torsten Hoefler**, ETH Zurich

Jason Hong, Carnegie Mellon University
Sandy Irani, University of California, Irvine
Hiroshi Ishii, MIT Media Lab

Alfons Kemper, Technical University of Munich

Samir Khuller, Northwestern University Farinaz Koushanfar, University of California, San Diego

C.-C. Jay Kuo, University of Southern California Hang Li, Bytedance Jimmy Lin, University of Waterloo

Radu Marculescu, The University of Texas at Austin

Hong Mei, Peking University **David M. Mount**, University of Maryland at College Park

Gonzalo Navarro, University of Chile Rafael Pass, Cornell University, Tel-Aviv University

Marc Pollefeys, ETH Zurich, Microsoft Alex Pothen, Purdue University Moinuddin Qureshi, Georgia Institute of Technology

Ashutosh Sabharwal, Rice University Timothy Sherwood, University of California, Santa Barbara

Stefano Soatto, University of California, Los Angeles

John T. Stasko, Georgia Institute of Technology Zhendong Su, ETH Zurich Gary J. Sullivan, Microsoft

Jaime Teevan, Microsoft
Kentaro Toyama, University of Michigan
Rene Vidal, Johns Hopkins University,

University of Pennsylvania

Eric Xing, Carnegie Mellon University,

Mohamed bin Zayed University of Artificial Intelligence

Dong Yu, Tencent

Yizhou Yu, University of Hong Kong Haitao (Heather) Zheng, The University of Chicago

Wenwu Zhu, Tsinghua University Denis Zorin, New York University

Additional Awards

ACM Frances E. Allen Award for Outstanding Mentoring

The ACM Frances E. Allen Award for Outstanding Mentoring will be presented biennially to an individual who has exemplified excellence and/or innovation in mentoring with particular attention to recognition of individuals who have shown outstanding leadership in promoting diversity, equity, and inclusion in computing. The award is named for Frances E. Allen, an American computer scientist and pioneer in optimizing compilers. Allen, who was the first woman to receive the ACM A.M. Turing Award, was especially known for her mentorship of younger colleagues. The award is accompanied by a prize of \$25,000 to the awardee, and an additional \$10,000 cash contribution to an approved charity of the awardee's choice. Financial support is provided by Microsoft Research. The next honoree will be recognized in 2024.

ACM Policy Award

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 award is accompanied by a \$10,000 prize. The next honoree will be recognized in 2024.



ACM - IEEE CS Eckert-Mauchly Award



Mark Horowitz Stanford University

ACM and IEEE Computer Society named Mark Horowitz, a Professor at Stanford University, as the recipient of the 2022 Eckert-Mauchly Award for contributions to microprocessor memory systems. Horowitz was the first to identify the processor to dynamic random-access memory (DRAM) interface as a key bottleneck that required architecture and circuit optimization. He pioneered high-bandwidth DRAM interfaces. In addition, modern DRAM interfaces such as SDDR and LPDDR were strongly influenced by his techniques.

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



*lan Foster*University of Chicago

ACM and IEEE Computer Society have named Ian Foster, a Professor at the University of Chicago and Division Director at Argonne National Laboratory, as the recipient of the 2022 ACM-IEEE CS Ken Kennedy Award. Foster is cited for contributions to programming and productivity in computing via the establishment of new programming models and foundational science services.

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 award 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 Fellowships



Marcin Copik
ETH Zurich



Masado Alexander Ishii University of Utah



Shelby Lockhart
University of Illinois

Marcin Copik of ETH Zurich and Masado Alexander Ishii of the University of Utah are the recipients of the 2022 ACM-IEEE CS George Michael Memorial HPC Fellowships. Shelby Lockhart of the University of Illinois at Urbana-Champaign received an Honorable Mention.

Copik is recognized for incorporating the Function-as-a-Service programming model into HPC applications and bringing high-performance into serverless to cut costs and increase efficiency of supercomputing. Ishii is recognized for developing lightweight, dimension-parameterized, parallel meshing algorithms with a focus on scalability and improving total time-to-solution for engineering applications. Lockhart is recognized for contributions in scalable iterative solvers using node-aware communication and low synchronization algorithms to reduce communication bottlenecks on supercomputers.

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 PhD 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.



SIAM/ACM Award in Computational Science and Engineering

SUNDIALS Core Development Group

The SUNDIALS Core Development Group, consisting of Carol S. Woodward, Cody J. Balos, Peter N. Brown, David J. Gardner, Alan C. Hindmarsh, Daniel R. Reynolds, and Radu Serban, are the 2023 recipients of the SIAM/ACM Prize in Computational Science and Engineering. The group received the award for innovative research and development of nonlinear and differential/algebraic equation solvers for high-performance computing that provides unique, critical capabilities in the scientific software ecosystem.

The SIAM/ACM Prize in Computational Science and Engineering is awarded every two years by SIAM and ACM in the area of computational science to one individual or a group of individuals in recognition of outstanding contributions to the development and use of mathematical and computational tools and methods for the solution of science and engineering problems.

ACM/CSTA Cutler-Bell Prize in High School Computing



Okezue Bell Moravian Academy (PA) Liberal Arts and Science



Nathan Elias Academy (TX)



Hannah Guan Basis San Antonio Shavano (TX)



Sirihaasa Nallamothu University High School (IL)

The Cutler-Bell Prize recipients will be formally recognized at the Computer Science Teachers Association's annual conference which will be held virtually in July of 2023.

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 Gordon Bell Prize

A 16-member team drawn from French, Japanese, and US institutions were named as recipients of the 2022 ACM Gordon Bell Prize for their project, "Pushing the Frontier in the Design of Laser-Based Electron Accelerators With Groundbreaking Mesh-Refined Particle-In-Cell Simulations on Exascale-Class Supercomputers."

The members of the team are: Luca Fedeli (Université Paris-Saclay), Alex Huebl (Lawrence Berkeley National Laboratory), France Boillod-Cerneaux (Université Paris-Saclay), Thomas Clark (Université Paris-Saclay), Kevin Gott (Lawrence Berkeley National Laboratory), Conrad Hillairet (Arm), Stephan Jaure (ATOS), Adrien Leblanc (Laboratoire d'Optique Appliquée, ENSTA Paris), Remi Lehe (Lawrence Berkeley National Laboratory) Andrew Myers (Lawrence Berkeley National Laboratory), Christelle Piechurski (GENCI) Mitsuhisa Sato (RIKEN), Neil Zaïm (Université Paris-Saclay), Weiqun Zhang (Lawrence Berkeley National Laboratory), Jean-Luc Vay (Lawrence Berkeley National Laboratory), and Henri Vincenti (Université Paris-Saclay).

The Gordon Bell Prize recognizes 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 award, presented during the annual SC Conference, includes \$10,000 in prize money. The prize is endowed by Gordon Bell, a pioneer in high-performance and parallel computing.

ACM Gordon Bell Special Prize for High-Performance-Based COVID-19 Research Award

The 2022 ACM Gordon Bell Special Prize for High Performance Computing-Based COVID-19 Research was awarded to an international team for their project "GenSLMs: Genome-Scale Language Models Reveal SARS-CoV-2 Evolutionary Dynamics." The prize recognizes outstanding research achievement toward the understanding of the COVID-19 pandemic through the use of high-performance computing.

The winning team members are Maxim Zvyagin, Alexander Brace, Kyle Hippe, Yuntian Deng, Bin Zhang, Cindy Orozco Bohorquez, Austin Clyde, Bharat Kale, Danilo Perez-Rivera, Heng Ma, Carla M. Mann, Michael Irvin, J. Gregory Pauloski, Logan Ward, Valerie Hayot, Murali Emani, Sam Foreman, Zhen Xie, Diangen Lin, Maulik Shukla, Weili Nie, Josh Romero, Christian Dallago, Arash Vahdat, Chaowei Xiao, Thomas Gibbs, Ian Foster, James J. Davis, Michael E. Papka, Thomas Brettin, Rick Stevens, Anima Anandkumar, Venkatram Vishwanath, and Arvind Ramanathan.

The prize was awarded to recognize outstanding research achievement toward the understanding of the COVID-19 pandemic through the use of high performance computing (HPC). A cash prize in the amount of \$10,000 accompanies the award, which was conceived and funded by Gordon Bell, a pioneer in high performance computing and researcher emeritus at Microsoft Research.



CRA Skip Ellis Early Career Award



Christina Harrington Carnegie Mellon University

Christina Harrington is the recipient of the CRA Skip Ellis Early Career Award. Harrington is an Assistant Professor at Carnegie Mellon University in the HCI Institute in the School of Computer Science with a courtesy appointment in the School of Design.

Harringtons research addresses health and racial equity through human-computer interaction and design research approaches where she explores and co-design technologies to support the needs of historically marginalized groups. Harrington has worked for over a decade to implement technological interventions for Black and Brown individuals and those with disabilities and impairments in areas of community health advocacy, health information seeking, and community design of technology futures. Harrington has published work at premier HCI venues and won best paper and honorable mention awards for her work on equitable participatory design with Black elders and Black youth. She has presented her work at academic institutions, government agencies, and industry seminars.

The CRA Skip Ellis Early Career Award is in honor of Clarence "Skip" Ellis, the first African-American to earn a PhD in computer science and the first African-American to be elected a Fellow of the ACM. This annual award is given to a person who identifies as a member of a group underrepresented in computing (African-American, Latinx, Native American/First Peoples, and/or People with Disabilities), who has made significant research contributions in computer science and/or engineering and has also contributed to the profession, especially in outreach to underrepresented populations.

CRA-E Undergraduate Research Faculty Mentoring Award



Yi-Chieh (Jessica) Wu Harvey Mudd College



William Wang
UC Santa Barbara



Nanette Veilleux
Simmons University

The Education Committee of the Computing Research Association (CRA) is pleased to announce that Yi-Chieh (Jessica) Wu, William Wang, and Nanette Veilleux are recipients of the CRA-E Undergraduate Research Faculty Mentoring Award.

Wu develops and applies computational and mathematical models to study evolutionary biology. Her passion for undergraduate research mentoring extends beyond her own research program by empowering other faculty to become better undergraduate research mentors. She has mentored 29 undergraduate research students since joining the Harvey Mudd faculty in 2014, 28 of whom have already graduated and 10 of whom have gone on to PhD programs at schools including MIT, UC Berkeley, University of Washington, and Penn, among others. A total of 18 students were co-authors on nine distinct papers, some of which appear in the top venues in computational biology.

Wang's research interests include Mind and Machine Intelligence, as well as Natural Language Processing. He has mentored over 60 undergraduate students at UCSB, including 13 female and under-represented students. Among those, 32 mentored students entered a graduate research program in computing, and 12 were enrolled into top PhD programs at Carnegie Mellon, UIUC, Duke, ETH, Michigan, UPenn, UCSB, and USC. His undergraduate students have received major awards, including two Chancellor's Awards for Excellence in Undergraduate Research, and three CRA Outstanding Undergraduate Researcher Award finalists.

Veilleux's research interests include primary research in computational models of speech, as well as investigations of pedagogical methods in STEM education. Veilleux has mentored over 450 undergraduate students at Simmons. Among those, 15 mentored students entered graduate research programs at Rice University, Northeastern University, Boston University, Brandeis, Dartmouth and London School of Economics and Political Science among others.

The CRA-E Undergraduate Research Faculty Mentoring Award recognizes individual faculty members who have provided exceptional mentorship, undergraduate research experiences, and, in parallel, guidance on admission and matriculation of these students to research-focused graduate programs in computing.



ACM Regional Awards

ACM India Doctoral Dissertation Award



Siddharth Sandipkumar Bhandari
Tata Institute of Fundamental Research, Mumbai

Siddharth Sandipkumar Bhandari is the recipient of the ACM India Council's 2022 Doctoral Dissertation Award for his dissertation titled "Exact Sampling and List Decoding." His dissertation was cited for developing new techniques and tools in sampling graph colourings and contributes to improved analyses for understanding list-decodability of codes.



Pritish Mohapatra International Institute of Information Technology, Hyderabad



Sruthi Sekar Indian Institute of Science, Bangalore



Deepika Yadav Indraprastha Institute of Information Technology, Delhi

Pritish Mohapatra is co-recipient of the Honorable Mention of the ACM India Council's 2022 Doctoral Dissertation Award for his dissertation titled "Optimization for and by Machine Learning."

Sruthi Sekar is co-recipient of the Honorable Mention of the ACM India Council's 2022 Doctoral Dissertation Award for her dissertation titled "Near-Optimal Non-Malleable Codes and Leakage Resilient Secret Sharing Schemes."

Deepika Yadav is co-recipient of the Honorable Mention of the ACM India Council's 2022 Doctoral Dissertation Award for her dissertation titled "Supporting Ongoing Training of Community Health Workers through Mobile-based Solutions in Rural India."

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 India Early Career Researcher Award



Partha Pratim Talukdar Google Research India Indian Institute of Science (IISc), Bangalore

The ACM India Council has named Partha Pratim Talukdar, from Google Research India and CDS Department IISc Bangalore, as the recipient of the 2022 ACM India Early Career Researcher Award (ECR) for combining deep scholarship of natural language processing (NLP), graphical knowledge representation, and machine learning to solve problems of great contemporary relevance. He is the most recognized and accomplished young emissary from India to the worldwide NLP community.

The ACM India Early Career Researcher (ECR) Award recognizes individuals in early stages of their careers, who have made fundamental, innovative, and impactful contributions to the computing field while primarily working in India. The award carries a prize of ₹15 lakhs (approximately USD \$20,000). Financial support for this award is provided by the Persistent Foundation.

ACM India Outstanding Contributions in Computing by a Woman



Shweta AgrawalIndian Institute of Technology,
Madras (IITM)

Shweta Agrawal is the recipient of the 2022 ACM India Outstanding Contributions in Computing by a Woman (OCCW) Award. She is recognized for her outstanding contributions to the field of cryptography and her dedication to mentoring women in science and technology.

The ACM India Outstanding Contributions in Computing by a Woman (OCCW) Award recognizes women professionals who have made fundamental, innovative, impactful contributions to the computing field primarily working in India. The award carries a prize of ₹7 lakhs (approximately USD \$10,000). Financial support for this award is provided by Google.



ACM India Outstanding Contribution to Computing Education Award



Smruti Ranjan Sarangi Indian Institute of Technology, Delhi

Smruti Ranjan Sarangi of Indian Institute of Technology, Delhi is the recipient of 2022 ACM India Outstanding Contribution to Computing Education (OCCE) Award for extensive contributions to the computer architecture community in terms of writing textbooks, remote teaching, and development of educational software.

The ACM India Outstanding Contribution to Computing Education (OCCE) Award recognizes individuals who have made fundamental, innovative and impactful contributions to computing education in India. The award carries a prize of ₹7 lakhs (approximately USD \$10,000). Financial support for this award is provided by Microsoft Research India.

IPSJ/ACM Award for Early Career Contributions to Global Research



Manato FujimotoOsaka Metropolitan University

The IPSJ/ACM Award for Early Career Contributions to Global Research is presented to Manato Fujimoto, Osaka Metropolitan University, for his contributions to research related to "Ubiquitous Computing Systems" for the realization of Society 5.0. Fujimoto is targeting various fields toward making our world "Hyper-Smart" with a Cyber-Physical System that highly links the real world and cyberspace.

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 China Doctoral Dissertation Award



Yan Meng Shanghai Jiao Tong University



Xupeng Miao Peking University

The ACM China Doctoral Dissertation Award is presented to Yan Meng of Shanghai Jiao Tong University and Xupeng Miao of Peking University.

Yan Meng has studied the security of IoT networks, especially in the smart home. He proposes cross-layer side-channel attacks and countermeasures, designs liveness detection schemes, and builds misbehavior monitoring tools in the device, voice interface, and application platform layers, respectively. He published 20+ papers, including ACM CCS, USENIX Security, INFOCOM, TDSC, TMC, etc.

Xupeng Miao's research focuses on building scalable, easy-to-use, and high-performance machine learning systems. He has published more than 20 high-quality publications in top-tier conferences and journals (e.g., SIGMOD, VLDB, OSDI, KDD, etc) and won a best paper award in VLDB 2022.

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 is accompanied by a prize of ¥10,000.

ACM China Rising Star Award



Yuanjie Li Tsinghua University



Yu Zhang Huazhong University of Science and Technology

The ACM China Rising Star Award is presented to Yuanjie Li, Tsinghua University, and Yu Zhang, Huazhong University of Science and Technology.

The ACM 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. Besides the honor, a prize of ¥10,000, will also be presented to each winner.

CCF/ACM Award for Artificial Intelligence



Heng Tao Shen
University of Electronic Science
and Technology of China

The 2022 CCF-ACM Award for Artificial Intelligence is presented to Heng Tao Shen, University of Electronic Science and Technology of China, for his distinguished contributions to multimedia content representation, analysis, and retrieval.

The CCF-ACM Artificial Intelligence Award, established last year by the Chinese Computer Federation and ACM, is awarded to professionals who have made outstanding contributions to the theory, technology, or application of artificial intelligence and worked in China at the time of the award.

Awards Committee Co-Chairs



Roy Levin roy@levin.net



John R. White white@acm.org

ACM Award Nomination Submission Procedures

*** * ***

Nominations for the awards presented at the June Awards Banquet are due in late Fall, but other awards are presented throughout the year.

For ACM Fellow, the deadline is **September 7, 2023**. For ACM Distinguished Member, the deadline is **August 1, 2023**. For ACM Senior Member, the deadline is **September 3, 2023**.

Nomination forms and guidelines will be found on the awards site under "Advanced Grades of Membership" https://awards.acm.org/advanced-member-grades.

For information on the nominations process and 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:

Jade Morris ACM Awards Committee Liaison jade.morris@acm.org

ACM Special Interest Group Awards

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 www.acm.org/sigs/sig-awards.



2022 ACM Award Subcommittee Chairs and Members

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Jeannette Wing Columbia University wing@columbia.edu

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Monika Henzinger
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David Patterson
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Luca Trevisan
Manuela Veloso

ACM Prize in Computing

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Princeton University
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Peter Druschel Jasmin Fisher Sham Kakade Ravi Kannan Shwetak Patel

Zhengyou Zhang

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Paris Kanellakis Theory and Practice

Noga Alon Princeton University nalon@math.princeton.edu

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

Robin R. Murphy
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Karl V. Karlstrom Outstanding Educator

Judith Gal-Ezer
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Distinguished Service

Anastasia Ailamaki EPFL anastasia.ailamaki@epfl.ch Members:

Miguel Castro PJ Narayanan Radia Perlman Len Shustek

Outstanding Contribution to ACM

Fabrizio Gagliardi Barcelona Supercomputing Center fgagliar@bsccns. onmicrosoft.com

Members: Elizabeth Churchill Chris Hankin Mukund Madhavan Jane Prey

ACM Athena Lecturer

Susan Dumais Microsoft sdumais@microsoft.com Members: Briana Bettin

2022 ACM Award Subcommittee Chairs and Members



Doctoral Dissertation

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Ignacio Laguna

IEEE Members: Ewa Deelman Susan Rodger

SIAM/ACM Prize in Computational Science and Engineering (Biennial)

c/o Joanna Littleton SIAM littleton@siam.org SIAM Members: David Keyes Lois McInnes

ACM Members: Geoffrey Fox Bobby Schnabel

Gordon Bell Prize

Edmond Chow Georgia Institute of Technology echow@cc.gatech.edu

Members:
George Biros
Taisuke Boku
Barbara Chapman
Wolfgang Nagel
Amanda Randles
Kenjiro Taura
John Taylor

Regeneron International Science and Engineering Fair

Christina Gardner-McCune University of Florida gmccune@ufl.edu

Members: Fred Martin Jesmin Jahan Tithi Tom Yeh



Past Recipients

...

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 F. 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 Tarian

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

2017 John Hennessy

2017 David Patterson

2018 Yoshua Bengio

2018 Geoffrey Hinton

2018 Yann LeCun

2019 Edwin Catmull

2019 Patrick Hanrahan

2020 Alfred Vaino Aho

2020 Jeffrey David Ullman

2021 Jack J. Dongarra

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

2017 Dina Katabi

2018 Shwetak Patel

2019 David Silver

2020 Scott Aaronson

2021 Pieter Abbeel

* Formerly the ACM-Infosys Award in the Computina Sciences

ACM Charles P. "Chuck" Thacker Breakthrough in Computing Award (Biennial)

2018 Mendel Rosenblum 2020 Michael Franz

ACM Frances E. Allen Award for Outstanding Mentoring (Biennial)

2021 Carla E. Brodley

Software System Award

1983 **UNIX**

Ken Thompson Dennis M. Ritchie

1984 Xerox Alto Systems

Butler W. Lampson

Robert W. Taylor

Charles P. Thacker

Past Recipients

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 Gray Raymond Lorie Gianfranco Putzolu Patricia Selinger Irving Traiger

1988 INGRES

Gerald Held

Michael Stonebraker

Eugene Wong

John E. Warnock Charles M. Geschke William H. Paxton Douglas K. Brotz Edward A. Taft

1989 PostScript

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-WideWeb
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

2009 VMware Workstation 1.0
Edouard Bugnion
Scott Devine
Mendel Rosenblum
Jeremy Sugarman
Edward Wang

Anoop Sharma

2010 GroupLens
Collaborative Filtering
Recommender Systems
Peter Bergstrom



Past Recipients

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

John Duimovich Erich Gamma Kevin Haaland Julian Jones Philippe Mulet Steve Northover Dave Thomson John Wiegand

Gregory Adams

2012 LLVM

Vikram Adve Evan Cheng Chris Lattner

2013 Coa

Bruno Barras Yves Bertot Pierre Castéran Thierry Coquand Jean-Christophe Filliâtre Hugo Herbelin Gerard P. Huet Chetan Murthy Christine Paulin-Mohrina

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)

2017 **Project Jupyter**

Fernando Pérez

Brian E. Granger Min Ragan-Kelley Paul Ivanov Thomas Kluvver Jason Grout Matthias Bussonnier Damián Avila Steven Silvester Jonathan Frederic Kyle Kelley Jessica Hamrick Carol Willing Sylvain Corlay

2018 Wireshark

Fernando Pérez

Peter Parente

2019 DNS

Paul Mockapetris

2020 Berkeley DB

Keith Bostic Michael Olson

Margo Seltzer 2021 CompCert Sandrine Blazy

> Zaynah Dargaye Jacques-Henri Jourdan Xavier Leroy Michael Schmidt Bernhard Schommer

Jean-Baptiste Tristan

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 Ben Wegbreit

1975 Daniel G. Bobrow

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 Grav



Paul McJones Michael Blasgen Bruce Lindsay Raymond Lorie Thomas Price 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 Michael Heer

2017 Amanda Randles

2018 Constantinos

Daskalakis

Michael J. Freedman

2019 Maria Florina Balcan

2020 Shyamnath Gollakota

2021 Raluca Ada Popa

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

2011 Stephanie Forte

2012 Yoav Shoham 2012 Moshe Tennenholtz

2013 no award given

2014 Jon Kleinberg

2015 Eric Horvitz

2016 Jitendra Malik

2017 Margaret A. Boden

2018 Henry Kautz

2019 Lydia Kavraki

2019 Daphne Koller

2020 Hector Levesque

2020 Moshe Vardi

2021 Carla Gomes

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 Yoay Freund

2004 Robert Schapire

2005 Gerard Holzmann

2005 Robert Kurshan

2005 Moshe Vardi

2005 Pierre Wolper

2006 Robert K. Brayton

2007 Bruno Buchberger

2008 Corinna Cortes

2008 Vladimir Vapnik

2009 Mihir Bellare

2009 Phillip Rogaway

2010 Kurt Mehlhorn

2011 Hanan Samet

2012 Andrei Broder

2012 Moses Charikar

2012 Piotr Indvk

2013 Robert Blumofe

2013 Charles Leiserson

2014 James Demmel

2015 Michael G. Lubv

2016 Amos Fiat

2016 Moni Naor

2017 Scott J. Shenker

2018 Pavel Pevzner

2019 Noga Alon

2019 Phillip Gibbons

2019 Yossi Matias

2019 Mario Szegedy

2020 Yossi Azar

2020 Andrei Broder

2020 Anna Karlin

2020 Michael Mitzenmacher

2020 Eli Upfal

2021 Avrim Blum

Irit Dinur

Cynthia Dwork

Frank McSherry

Kobbi Nissim

Adam Davison Smith

Karl V. Karlstrom **Outstanding Educator** Award

1989 C.L. Liu

1990 Gerald Jav Sussman

1991 David A. Patterson

1992 David Harel

1993 Andries van Dam

1994 Andrew Tanenbaum

1995 David Gries

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

2017 Judith Gal-Ezer

2018 Robert Sedgewick

2019 Mordechai Ben-Ari

2020 Andrew McGettrick

2021 Mark Allen Weiss

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

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

2018 Meenakshi

Balakrishnan

2020 Richard Anderson

Distinguished Service Award

1970 Franz L. Alt

1971 J. Don Madden

1972 George E. Forsythe (posthumously)

1973 William Atchison

1974 Saul Gorn

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1975 John W. Carr III 1976 Richard G. Canning 1977 Thomas B. Steel, Jr. 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 F.G. Coffman 2005 Mary Jane Irwin 2006 Susan L. Graham 2007 David A. Patterson 2008 Telle Whitney 2009 Edward Lazowska 2010 Reinhard Wilhelm

2011 William A. Wulf

2012 Mateo Valero

2013 Gerhard Goos
2013 Juris Hartmanis
2013 Jan van Leeuwen
2014 Dame Wendy Hall
2015 Ron Perrott
2016 Leonard J. Shustek
2017 Janice Cuny
2018 Victor Bahl
2019 Michael Ley
2020 Jennifer T. Chayes
2021 Erik Altman

Doctoral Dissertation Award

1982 Charles E. Leiserson 1983 Thomas W. Reps 1984 Manolis G.H. Katevenis 1985 John R. Fllis 1986 Johan Torkel Hastad 1986 Ketan D. Mulmuley 1987 John Canny 1988 Mauricio Karchmer 1989 Vijay Saraswat 1990 Hector Geffner 1990 David Heckerman 1991 Robert Schapire 1992 Kenneth McMillan 1992 Mendel Rosenblum 1993 Madhu Sudan 1994 David Karger 1994 T.V. Raman 1995 Sanjeev Arora 1995 Daniel A. Spielman 1996 Xiaoyuan Tu 1996 Carl Waldspurger 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 Saniam Gard 2014 Matei Zaharia 2015 Julian Shun 2016 Haitham Hassanieh 2017 Aviad Rubenstein 2018 Chelsea Finn 2019 Dor Minzer 2020 Chuchu Fan 2021 Manish Raghavan

Outstanding Contribution to ACM Award

1976 W. Smith Dorsey

1976 Bruce W. Van Atta
1978 Kathleen A. Wagner
1979 M. Stuart Lynn
1981 J.A.N. Lee
1982 Fred H. Harris
1983 Richard Austing
1983 Seymour J. Wolfson
1984 Orrin E. Taulbee
1985 Jack Minker
1985 Thomas A. D'Auria
1986 Herbert Maisel
1987 Edward G. Coffmann, Jr.
1988 Thomas A. DeFanti



1989 Monroe (Monty) Newborn

1990 William Poucher

1991 Allen Tucker

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

1999 Ronald Boisvert

2000 Hal Berghel

2001 Barbara Simons

2002 Patricia M. Rvan

2003 Mark Scott Johnson

2004 Richard T. Snodgrass

2005 Don Gotterbarn

2006 David S. Wise

2007 Robert A. Walker

2008 Wavne Graves

2008 Bernard Rous

2009 Moshe Y. Vardi

2010 Joseph S. DeBlasi

2011 Calvin C. (Kelly)

Gotlieb

2012 7vi Kedem

2013 Donna Cappo

2013 Russell Harris

2014 Dame Wendy Hall

2015 no award given

2016 Valerie Barr

2017 Stephen Bourne

2018 Chris Stephenson

2019 Arati Dixit

2020 Chris L. Hankin

ACM-IEEE CS Eckert-Mauchly Award

1979 Robert S. Barton

1980 Maurice V. Wilkes

1981 Wesley A. Clark

1982 C. Gordon Bell

1983 Tom Kilburn

1984 Jack B. Dennis

1985 John Cocke

1986 Harvey G. Cragon

1987 Gene M. Amdahl

1988 Daniel P. Siewiorek

1989 Seymour Cray

1990 Kenneth E. Batcher

1991 Burton J. Smith

1992 Michael J. Flynn

1993 David J. Kuck

1994 James E. Thornton

1995 John Crawford

1996 Yale Patt

1997 Robert Tomasulo

1998 Tadashi Watanabe

1999 James E. Smith

2000 Edward Davidson

2001 John Hennessy

2002 B. Ramakrishna (Bob)

Rau

2003 Joseph A. (Josh) Fisher

2004 Frederick P. Brooks, Jr.

2005 Robert P. Colwell

2006 James Pomerene

2007 Mateo Valero

2008 David A. Patterson

2009 Joel Emer

2010 William Dally

2011 Gurindar Sohi

2012 Algirdas Avizienis

2013 James Goodman

2014 Trevor Mudge

2015 Norman Jouppi

2016 Uri Weiser

2017 Charles P. "Chuck"

Thacker

2018 Susan Eggers

2019 Mark Hill

2020 Luiz André Barroso

2021 Margaret Martonosi

2022 Mark Horowitz

ACM-IEEE CS Ken Kennedy Award

2009 Francine Berman

2010 David J. Kuck

2011 Susan L. Graham

2012 Mary Lou Soffa

2013 Jack Dongarra

2014 Charles Leiserson

2015 Katherine Yelick

2016 William D Gropp

2017 Jesús Labarta

2018 Sarita Adve

2019 Geoffrey Fox

2020 Vivek Sarkar

2021 David A. Abramson

SIAM-ACM Award in Computational Science and Engineering (Biennial)

2003 John B. Bell

2003 Phillip Colella

2004 Achi Brandt

2007 Chi-Wang Shu

2009 Cleve Moler

2011 J. Tinsley Oden

2013 Linda Petzold

2015 Sataish Balay

*** * ***

2015 Jed Brown

2015 William Gropp

2015 Matthew Knepley

2015 Lois Curfman McInnes

2015 Barry Smith

2015 Hong Zhang

2017 Thomas J. R. Hughes

2019 Jack Dongarra

2021 George Karniadakis

ACM Presidential Award

1985 Robert E. Kahn

1987 Kent Curtis

1998 John Gage

2002 Calvin C. Gotlieb

2006 Andreas Bechtolsheim

2006 Janice E. Cuny

2006 Edward Lazowska

2007 Eugene Spafford

2008 Stephen R. Bourne

2008 Patricia M. Ryan

2008 Barbara Ryder

2008 Moshe Vardi

2010 Joseph Mathai

2010 Elaine Weyuker

2013 Fabrizio Gagliardi

2013 Yunhao Liu

2013 P.J. Narayanan

2014 Mehran Sahami

2015 John R. White

2016 Gerhard Schimpf

2016 Chris Stephenson

2017 Moshe Vardi

2018 Don Gotterbarn

2018 Andrew McGettrick

2018 Fabrizio Gagliardi

2019 Vinton G. Cerf

2022 Dame Wendy Hall

ACM Athena Lecturer Award*

2006 Deborah Estrin

2007 Karen Spärck Jones

2008 Shafrira Goldwasser

2009 Susan Eggers

2010 Mary Jane Irwin

2011 Judith S. Olson

2012 Nancy Lynch

2013 Katherine Yelick

2014 Susan Dumais

2015 Jennifer Widom

2016 Jennifer Rexford

2017 Lydia E. Kavraki

2018 Andrea Goldsmith

2019 Elisa Bertino

2020 Sarit Kraus

2021 Ayanna Howard

2022 Eva Tardos

* Formerly the ACM-W Athena Lecturer Award



Scott J. Aaronson
Daniel J. Abadi
Martin Abadi
Tarek Abdelzaher
Serge Abiteboul
Gregory D. Abowd
Jacob Abraham
Paul W. Abrahams
Samson Abramsky
David A. Abramson
Mark S. Ackerman
James M. Adleman
William Richards Adrion

Sarita Adve
Vikram Adve
Foto Afrati
Anant Agarwal
Pankaj Agarwal

Charu Chandra Aggarwal Gul Agha Dharma P. Agrawal

Divyakant Agrawal Rakesh Agrawal Vishwani D. Agrawal Maneesh Agrawala * Alfred V. Aho

Alfred V. Aho Narendra Ahuja Alex Aiken Robert Aiken Anastasia Ailamaki

Kurt B. Akeley lan F. Akyildiz James Allan Frances Allen Eric Allender Noga Alon Gustavo Alonso

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Andrew W. Appel

Lars Arge Sanjeev Arora

Andrea Arpaci-Dusseau

Remzi Arpaci-Dusseau

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Ricardo A. Baeza-Yates

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Hari Balakrishnan

Meenakshi Balakrishnan Magdalena Balazinska

Pierre Baldi Thomas Ball Prithviraj Banerjee Suman Banerjee Utpal Banerjee Boaz Barak* Paul Barford Paul Barham Alan H. Barr

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Victor Basili

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Kenneth E. Batcher

Paul Beame

Michel Beaudouin-Lafon *

Catriel Beeri Elizabeth Belding C. Gordon Bell Mihir Bellare Luca Benini

Bonnie Berger Emery David Berger

Hal Berghel Francine Berman Philip A. Bernstein

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Alan W. Biermann Lars Birkedal Ken Birman

Joel S. Birnbaum Dines Bjorner Nikolaj Bjorner Stephen Blackburn

Jose A Blakeley Michael W. Blasgen

David M. Blei Guy Blelloch Avrim Blum Manuel Blum

Gregor V. Bochmann

Rastislav Bodik Barry Boehm Hans Boehm David R. Boggs Ronald F. Boisvert Shahid H. Bokhari

Peter Boncz * Dan Boneh Grady Booch

Christine L. Borgman Lorraine Borman

Katy Borner

Alan H. Borning

Allan Borodin

Bella Bose

Stephen Bourne

Craig Boutilier

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Richard P. Brent

Fric A. Brewer

Lionel Briand

Daniel S. Bricklin

Andrei Broder

Carla Brodley

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Philip R. Cohen

Daniel Cohen-Or

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Douglas E. Comer

Anne Condon

Jason Cong

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Robert Constable

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Noshir Contractor

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Rob Cook

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Ingemar J. Cox

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Roch Guerin Rachid Guerraoui Ramanathan Guha Leonidas Guibas Baining Guo Aarti Gupta Anupam Gupta Gopal Krishna Gupta Manish Gupta Rajesh Gupta Rajiv Gupta Yuri Gurevich Venkatesan Guruswami Dan Gusfield John Guttag Mark Guzdial Adolfo Guzman Johan Hästad Laura M. Haas Peter Haas Zygmunt J. Haas Donald J. Haderle **Gregory Hager** Brent T. Hailpern Mohammad Hajiaghayi Alon Yitzchak Halevy Dame Wendy Hall Dan Halperin Joseph Halpern Susanne E. Hambrusch Jiawei Han Steven Michael Hand Pat Hanrahan Vicki Hanson Mor Harchol-Balter David Harel Jayant R. Haritsa Robert Harper Michael A. Harrison Peter Hart Juris Hartmanis Ahmed E. Hassan *



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David Heckerman Philip Heidelberger

Wendi Beth Heinzelman

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Raj Jain

Ramesh C. Jain

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Niraj Jha

Somesh Jha

Ranjit Jhala

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Andrew Kahng

Laxmikant Kale

Erich L. Kaltofen

Subbarao Kambhampati

Takeo Kanade

Abraham Kandel

Sung Mo Kang

Ravi Kannan

Sampath Kumar Kannan

Ronald M. Kaplan

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Sidney Karin Anna Karlin

Howard J. Karloff

Richard Karp

David J. Kasik

Michael Kass Dina Katabi

Joost-Pieter Katoen

Jonathan Katz

Randy H. Katz

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Feifei Li

Hai Li

Hang Li *

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Li Erran Li

Ming Li

Ninghui Li

Xiangyang Li

Xuelona Li

Leonid Libkin

Chih-Jen Lin

Jimmy Lin *

Ming C. Lin

Yi-Bing Lin

Bruce Lindsay

Richard Lipton

menara Lipton

Barbara Liskov

Joyce Currie Little

Michael Littman

Witold Litwin

Bing Liu

C.L. Liu

.. ..

Huan Liu

Tie-Yan Liu

Yunhao Liu

Gabriel H. Loh

David B. Lomet

Donald W. Loveland

Steven H. Low

Paul G. Lowney

Tomas Lozano-Perez

Chenyang Lu Songwu Lu

Michael George Luby



John Chi-Shing Lui

Jiebo Luo

Joseph Bryan Lyles

Clifford A. Lynch

Nancy Lynch

M. Stuart Lynn

Richard F. Lvon

Yi Ma

Yoelle Maarek

Wendy Elizabeth Mackay

David MacOueen

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Scott Mahlke

David Maier

Herbert Maisel

Jitendra Malik

Sharad Malik

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Silvio Micali

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Dale A Miller

Garv L. Miller

Renee J. Miller

Victor Miller

David L. Mills

Tova Milo

Jack Minker

Bud Mishra

Javadev Misra

Vishal Misra

John C. Mitchell

Joseph Mitchell Subhasish Mitra

Michael Mitzenmacher Paul Mockapetris

Jeffrey C. Mogul

C. Mohan

Raymond Mooney

J. Strother Moore Thomas Moran

James H. Morris

Meredith Ringel Morris

Robert Morris

Greg Morrisett

Joel Moses

Andreas Moshovos

Eliot Moss

Elchanan Mossel

Rajeev Motwani

David M. Mount *

Todd C. Mowry

Trevor Mudge

Frank Mueller

Shubu Mukherjee

lan Munro

Richard R. Muntz

Gail C. Murphy

Robin R. Murphy

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Onur Mutlu

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Eugene Myers

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Nachiappan Nagappan

Radhika Nagpal

Klara Nahrstedt

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Chandra Narayanaswami

Dana Nau

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Rernhard Nebel

Peter G. Neumann

Monroe Newborn

Alan Newell

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Jason Nieh

J. Nievergelt

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Peter Norvig Susan H. Nycum Martin Odersky Anthony Oettinger Dianne Prost O'Leary

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Anthony Oettinger
Dianne Prost O'Leary
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