ACM

Annual Report
for Fiscal Year 2015

Association for
Computing Machinery

Alexander L. Wolf,
ACM President

ACM, the Association for Computing Machinery, is an international scientific and educational organization dedicated to advancing the arts, sciences, and applications of information technology.

Letter from the President

As I think back over the last year, I find it a fantastic time to be a member of the world's largest professional and student membership society in computing. We continue to build on the services and resources our volunteers and staff provide to the worldwide community, from the foremost collection of computing literature to the forefront of computing education and professional development, from expert advice on public policy and professional ethics to the advancement of a balanced and representative work force.

Also as I think back over the last year, I note it was a year of important firsts.

ACM presented its first million-dollar A.M. Turing Award, bringing the financial clout of this renowned honor in computing in line with the world's most prestigious cultural and scientific prizes. Thanks to the generous support of Google, this new monetary level raises the Turing Award's visibility as the premier recognition of computer scientists and engineers who have made contributions of enduring technical importance to the computing community.

ACM hosted its first conference targeted specifically at the computing practitioner community. Indeed, the Applicative conference was so successful we expect its successor, slated for June, to double in attendance. In addition, ACM recently introduced its first *acmqueue* app—an interactive, socially networked, electronic magazine designed to more easily reach where its audience now lives and works.

ACM established its first award to recognize the computing talents of high school seniors. The ACM/CSTA Cutler-Bell Prize in High School Computing seeks to promote and encourage computing as a profession as well as empower aspiring learners to

pursue computing challenges outside the classroom.

And, for the first time in 17 years, ACM welcomed a new executive director and CEO. Bobby Schnabel has a long history of service to the ACM and the computing community and I am confident he will support ACM with incredible passion and innovative ideas.

In the following pages you will find a year filled with determined initiatives, new services, and "firsts" designed to increase the value of your ACM membership. But accomplishments are only half the story. There is still much work to do. Issues related to open access and digital library sustainability remain high priorities for ACM's leaders, where we have introduced several new options requested by our members. We continue to explore ways to better integrate the DL with other services and value-added content that might create the foundation for a new revenue model. We are exploring new ways to reach an ever-broadening and diverse audience; look for ACM's first participation in the annual South-by-Southwest (SXSW) event in March. And ACM's transformation into a global professional society remains high on our agenda.

In the coming year ACM will seize more opportunities, explore more member benefit services, and face new challenges. And we are ready. As always, we look to our devoted volunteers, members, and industry partners for the advice and guidance to keep us steadily moving forward.

Alexander L. Wolf, **ACM President**
July 2014–June 2016

ACM COUNCIL

President Alexander L. Wolf
Vice President Vicki L. Hanson
Secretary/Treasurer Erik Altman
Past President Vinton G. Cerf
SIG Governing Board Chair Patrick Madden
Publications Board Co-Chairs
Jack Davidson, Joseph A. Konstan
Members-at-Large
Eric Allman, Ricardo Baeza-Yates, Cherri Pancake, Radia Perlman, Mary Lou Soffa, Eugene Spafford, Per Stenström
SGB Council Representatives
Paul Beame, Barbara Boucher Owens, David Wood
REGIONAL COUNCIL CHAIRS
ACM Europe Fabrizio Gagliardi
ACM India Srinivas Padmanabhuni
ACM China Yunhao Liu
ACM-W Valerie Barr
USACM Eugene Spafford
Education Board Andrew McGettrick
Practitioners Board George Neville-Neil

ACM HEADQUARTERS

Executive Director/CEO John R. White
Deputy Executive Director/COO Patricia M. Ryan

Bobby Schnabel was appointed ACM CEO/Executive Director, succeeding John White, who served in that capacity for 17 years.

HIGHLIGHTS OF ACM ACTIVITIES:
July 1, 2014–June 30, 2015

Publications

ACM's Publications Board seeks to maintain and strengthen the association's position as the leading provider of research information and related services for the scholarly computing community and to become a leading provider of advanced-level information and services for the broader computing industry.

To achieve these goals, ACM must (1) maintain and strengthen the quality of its current publication portfolio, (2) accelerate the growth of its program into new areas of computing and established areas where ACM has not historically focused in order to provide a wider range of affordable high-quality publication venues for both the research and practitioner communities, (3) establish itself as a leader in publication technology and innovation with new products and services for the community, and lastly to (4) take a leadership role in driving publishing industry innovation for the benefit of the broader scientific community.

The cornerstone of ACM publications is the ACM Digital Library (DL) serving as the primary distribution mechanism for all the association's publications as well as host to scientific periodicals and a set of conference proceedings from external organizations. With an estimated five million users worldwide, ACM's DL is available at 2,650 institutions in 190 countries. An additional 31,000 individual subscribers in 196 countries have DL access. The result of this widespread availability led to more than 20 million full-text downloads during FY15.

ACM is committed to always increasing the scope of material available via the DL. Last year, over 26,000 full-text articles were added, bringing total DL holdings to 443,000 articles. ACM's *Guide to Computing Literature* is also integrated within the DL. More than 76,000 works were added to the bibliographic database in FY15, bringing the total *Guide* coverage to more than 2.1 million works.

ACM is the publisher of 83 periodicals, including 43 journals and transactions, eight magazines, and 32 newsletters as of year-end FY15. During the year, ACM added 448 volumes of conference and related workshop proceedings to its portfolio. The ACM International Conference Proceedings Series (ICPS) added 113 new volumes, a significant increase over FY14.

The Publications Board continues to examine ways to offer authors and readers greater open access to published material. In the past year, in addition to continuing current policies offering authors a choice of copyright options and a suite of author-retained rights, the Board also approved in concept the creation of an umbrella Gold OA ACM journal.

ACM Books, a series of research monographs and graduate-level textbooks generated in partnership with Morgan & Claypool publishers, finished its first full year of operation. Six books are currently available in the ACM DL; 14 additional titles are under development.

ACM-W Connections, now a monthly online newsletter, covers ACM-W programs, celebrations, scholarships, awards, and chapters as well as contributed articles and upcoming events.

SIGAI launched a new quarterly newsletter "AI Matters," featuring articles of general interest to the artificial intelligence community. SIGMOBILE introduced *GetMobile*, a complete redesign of its former newsletter. This new venue serves as a vehicle for mobile researchers to keep abreast of developments in their community.

Education

ACM leads the computer science education community through the work of the ACM Education Board, the ACM Education Council, ACM SIG-CSE, Computer Science Teachers Association (CSTA), and ACM Education Policy Committee.

The final report for CS2013, a joint effort of ACM and IEEE-CS, was presented to the ACM Council in October 2014. The report was commended for its comprehensive guidance for undergraduate CS programs. In fact, a Chinese translation of the report was recently completed.

ACM Competency Model of Core Learning Outcomes and Assessment for Associate-Degree Curriculum in Information Technology, a three-year effort, was published this year.

The second Heidelberg Laureate Forum brought together 200 young researchers, 200 mathematics and computer science laureates, including recipients of the ACM A.M. Turing Award, the Abel Prize, the Fields Medal, and the Nevanlinna Prize. The week-long event offered students a unique opportunity to share ideas with legends in the fields of computer science and mathematics.

The ACM Education Board's second Learning@ Scale conference was held in Vancouver, B.C. last March, attracting over 185 attendees. Inspired by the emergence of massive online courses (MOOCs), ACM created this conference for the review and presentation of research on how learning and teaching can change and improve when done at scale.

The ACM Education Policy Committee (EPC) engages educators, industry, policymakers, and the public on public policy issues in computer science and computing-related education. ACM, through EPC, participated in the leadership council of STEM Education Coalition. This year the coalition launched a new policy forum aimed at informing stakeholders about policy issues. The forum focused on career and technical education, and common standards to preparing students for college and careers.

CSTA released a landmark report this year: *Sowing the Seeds: A Landscape Study on Assessment in Secondary Computer Science Education.* The study finds there is a dearth of valid and reliable assessments for measuring student learning in high school computer science. The report highlights the challenges faced by CS teachers in the U.S. and concludes with recommendations for advancing the state of assessment in K–12 CS education.

ACM's partnering with Code.org represents a significant investment in seeing real computer science exist and *count* in U.S. high schools. At the end of FY15, 27 states had moved to enact legislation to make computer science count as a core graduation credit in science and math. Furthermore, over 100 million students, parents, and teachers in 180+ countries participated in the Hour of Code during Computer Science Education Week.

ACM's second annual report on computing education trends confirmed a continuing growth in enrollment and degree production at participating not-for-profit U.S. academic institutions that grant bachelor's and/or master's degrees in the major computing disciplines. The ACM NDC Study is based on a survey of nearly 1,000 non-doctoral-granting academic departments and institutions in computing. The study also offered valuable pipeline data to businesses and industries that are competing in the job market for workers with skills in these areas.

In conjunction with the Association for Information Systems, SIGMIS has been developing a model curriculum for education in information systems both at the undergraduate and graduate levels. The Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems 2016 was released in June.

Professional Development

The Practitioners Board and Professional Development Committee (PDC) directed many new products and initiatives designed for computing professionals and managers.

In FY15, ACM PDC continued the successful webinar series with consistent monthly webcasts, tighter integration with SIGs, and a more diverse set of topics. The committee added 10 webinars this year. Among the featured topics: Software engineering case studies, agile pros/cons, fast data, mobile development, and the future of invention in CS.

For the fourth consecutive year, *ACM Queue*, the online practitioner's magazine spirited by the Practitioner Board, surpassed the million-pageview threshold, with 1,254 pages viewed over the 12-month period. *Queue* readership has double in the last five years.

SIGCOM and SIGMOBILE are planning a new initiative to improve interactions with industry within their discipline. SIGCOMM/SIGMOBILE Industry Day on Wireless Networking is a day-long event with industry leaders and academics from wireless and mobile networking designed to increase opportunities for collaboration between the two fields.

Public Policy

ACM's U.S. Public Policy Council (USACM) made significant progress this year in delivering on its mission to educate and inform policy leaders, ACM members, the computing community, and the public about U.S. policy issues related to IT and computing.

USACM also participated in several multi-stakeholder partnerships to help educate and raise awareness of technology issues among legislators and the public at large. USACM participated in standing committees evaluating policy issues related to accessibility, digital governance, intellectual property, law, privacy, and security.

ACM Europe Council and USACM presented a consensus position on computing policy issues to negotiators of a new EU-U.S. free-trade agreement. The proposed Transatlantic Trade and Investment Partnership agreement addresses trade issues between the EU and the U.S.

The Committee on Computers and Public Policy continues to assist ACM in a variety of internationally relevant issues pertaining to computers and public policy. CCPP's respected *ACM Forum on Risks to the Public in Computers and Related Systems*, designed to discuss potential and serious computer-related risks with a global audience, covers such issues as human safety, privacy, election integrity, and societal/legal responsibilities. Over this fiscal year, 68 issues of the *Risks* digest were produced.

The ACM Policy Award was established in FY15 to honor the contributions of an individual, or a small group, who has had a significant impact on the formation or execution of public policy related to computing. A prize of $10,000 will accompany this biennial award.

Students

The 39th Annual ACM International Collegiate Programming Contest (ACM-ICPC) was hosted by Mohammed V University, Al Akhawayn University, and Mundiapolis University with 128 teams competing in the World Finals. Earlier rounds of the competition included more than 38,000 contestants representing 2,500 universities from 101 countries. Financial and systems support for ICPC are provided by IBM. The top four teams won Gold medals as well as employment or internship offers from IBM.

The ACM Student Research Competition (SRC), sponsored by Microsoft Research, continues to offer a unique forum for undergraduate and graduate students to present their original research at well-known ACM-sponsored and co-sponsored conferences before a panel of judges and attendees. This year's SRC saw graduate and undergraduate winners compete against more than 299 participants in contests held at 22 ACM conferences.

The ACM-W Scholarship program further enhanced its support for women undergraduate and graduate students in CS and related programs. The committee awarded over 40 student scholarships in FY15 to students to attend research conferences around the world.

The World Champion Team from St. Petersburg National Research University of IT Mechanics, St. Petersburg National Research University of IT Mechanics And Optics celebrate at the 2015 ACM International Collegiate Programming Contest.

Internationalization

ACM Europe focused on mapping out strategies for growing ACM membership and the computing profession throughout Europe. Its plans include hosting more conferences and local chapters, developing its roster of Distinguished Speakers, and increasing the visibility of ACM Europe at the European Commission level for policy issues like education.

ACM Europe Council also held a second open panel discussion to address the need to improve CS education in Europe. The panel discussed aspects about the current education situation in Europe and especially in Greece, where the economic crisis has had an adverse impact. The Committee on European Computing Education (CECE) of ACM Europe is addressing these challenges by working on charting current situations in European countries, and examining the systems that develop curricula and teacher training. The committee also hopes to develop a new conference dedicated to computing education in Europe.

ACM-W Europe is driven by a collective vision to cultivate and inspire people about the opportunities in computer science and clear the pathways throughout Europe for women in computing. Much of the efforts this year were extended to raise the visibility of computer science among European women, utilize social media channels for outreach, and to increase the number of ACM-W chapters in Europe.

The ACM China Council is committed to helping advance computing as a science and profession in China. Along with growing membership and chapters throughout the region, ACM China participates in reviewing the translation of select articles from *Communications of the ACM*, which are uploaded to the DL and distributed monthly to Chinese members as the *CACM China Edition*.

ACM India energized its efforts to promote education and the status of women in technology in India. Moreover, India-based conferences continue to grow into more dynamic and far-reaching events. ACM India launched an Eminent Speakers Program this year, which promises to gain visibility for ACM in India as well as putting chapter members in direct contact with thought leaders in a variety of computing sub-disciplines.

The ACM India Education Committee conducted a two-day workshop on computing curricula. The main objective of the workshop was to contrast the success seen by the Indian IT industry with the lack of similar progress in computing education in India, and to bring into focus what can be done to advance the future of computing and to meet the needs of employers.

An ever-growing number of ACM SIGs hosted conferences or established chapters worldwide in FY15. SIGAPP's Symposium on Applied Computing was held in Spain, SIG-HPC chartered a new chapter in Central Africa, SIGIR's annual conference was held in Gold Coast, Australia; a SIGSOFT chapter opened in India, and SIGWEB's Hypertext 2014 was held in Santiago, Chile. SIGCHI continues to advance internationalization, with plans to focus on Asia.

Electronic Community

ACM's e-Rights transfer application system completed its second full year of operations. This comprehensive system gives authors new options for managing rights and permissions. The system, used by all ACM journals, proceedings, and magazines, completely automates the rights transfer process.

More and more readers are accessing ACM's magazines via mobile devices. *Communications of the ACM*, *ACM Inroads*, *XRDS*, and *Interactions* are accessible as easy-to-use mobile apps for iPhones, iPads, and Android devices. These downloadable apps enable members to access ACM magazines in a new way.

A major enhancement to the ACM DL debuted this year with the rollout of new journal homepages, which now present a uniform, seamless style of ACM branding. The process will continue through 2016.

ASSETS 2014 was host to a successful experiment using Beam telepresence robots to enable attendance by two remote participants with disabilities, who would not have been able to attend otherwise. Via these robots, they participated in conference sessions, asked questions, and socialized during breaks.

ACM SIGs across the board continue to strengthen their online presence to build global awareness as well as incorporate social media into their operation at every opportunity. SIG-UCCS offered six professional development webinars to members this year; recordings of all are available on their website. SIG-SIM debuted its Digest Picture Blog, which contains modeling and simulation-related news and pictures. SIGMOBILE generated ePub files for all accepted papers from all its 2014 conferences.

Conferences

ACM hosted its first conference by and for practitioners—Applicative—in February 2015. The response to the conference was overwhelming positive; indeed, conference organizers for the 2016 Applicative conference expect attendance to grow twofold.

ACM's Committee of Professional Ethics ran a workshop on teaching computer ethics and decision making at the first IEEE Ethics Conference. The event explored professional/ethical issues and the use of ACM's Ethics Codes in computing classes.

SIGGRAPH 2014 welcomed over 14,000 artists, research scientists, gaming experts and developers, filmmakers, students, and academics from 75 countries to Vancouver, B.C. Over 1,500 speakers and contributors participated in the event and SIGGRAPH's exhibition hall drew 175 industry organizations from 18 countries. In addition, SIGGRAPH Asia, in Shenzhen, China, attracted over 6,000 participants from 53 countries.

ACM-W Celebrations continue to showcase female role models, encourage mentoring and networking, supply accurate information about computing careers, and create opportunities for women to present their research, often for the first time in their careers. These small conferences run with almost 100% volunteer effort and involve considerable fundraising.

The 2014 Grace Hopper Celebration for Women in Computing India hosted a sold-out group of 1,600 attendees. The program featured many events to support women in computing in India, including sessions on entrepreneurship, building confidence, and professional development, as well as technical presentations on topics ranging from wearable technology to machine learning.

Networking Networking Women (N^2 Women), a SIGMOBILE program, fosters connections among the under-represented women in computer network and related research fields who share the same career hurdles and attend the same conferences.

Recognition

There were 164 new chapters chartered in FY15. Of the 27 new professional chapters, five were U.S.-based and 22 were based outside the U.S.; of the 137 new student chapters, 62 were established in the U.S. and 75 outside the U.S.

The ACM Fellows Program recognized 47 members for their contributions to computing and computer science in FY15.

ACM also named 49 new Distinguished Members in FY15, of which there were five Distinguished Educators, two Distinguished Engineers, and 42 Distinguished Scientists. This year's Distinguished Members are from universities, leading international corporations, and research institutions in Austria, Germany, Switzerland, the Netherlands, Sweden, Japan, India, the U.K. and North America.

ACM and the Computer Science Teachers Association (CSTA) announced a new award this year: the ACM/CSTA Cutler-Bell Prize in High School Computing recognizing talented high school students in computer science. The program seeks to promote and encourage the field of computer science, as well as to empower young and aspiring learners to pursue computing challenges outside of the traditional classroom environment. Four winners will be selected annually and each will be awarded a $10,000 prize and cost of travel to a reception where students will demonstrate their programs and discuss their work.

The ACM History Committee fosters the collection, preservation, and interpretation of the history of ACM and its role in the development of computing. The committee continued work on its three-year project to create oral histories for all non-interviewed Turing Award recipients, and well as commissioned histories of ACM's officers, editors, among others.

The 2014 ACM Fellows are joined by Donald Knuth, (back row, center) member of the first ACM Fellows group in 1994.

2015 ACM AWARD RECIPIENTS

A.M. Turing Award
Michael Stonebraker

**ACM-Infosys Foundation Award
in the Computing Sciences**
Dan Boneh

ACM-AAAI Allen Newell Award
Jon Kleinberg

Grace Murray Hopper Award
Sylvia Ratnasamy

Karl V. Karlstrom Outstanding Educator Award
William A. Wulf

**Eugene L. Lawler award for
Humanitarian Contributions within
Computer Science and Informatics**
Robin Roberson Murphy

Outstanding Contribution to ACM Award
Dame Wendy Hall

Distinguished Service Award
Jeannette Wing

Paris Kanellakis Theory and Practice Award
James Demmel

Software System Award Mach
Rick Rashid, Avadis Tevanian

ACM-W Athena Lecturer Award
Jennifer Widom

2015 ACM-IEEE CS Eckert-Mauchly Award
Norman Jouppi

2015 ACM-IEEE CS Ken Kennedy Award
Charles E. Leiserson

ACM Presidential Award
John R. White, *ACM CEO*

Doctoral Dissertation Award
Matei Zaharia, *MIT*

Honorable Mention
John Criswell, *University of Rochester*
John Duchi, *Stanford University*

ACM India Doctoral Dissertation Award
Rujurekha Sen

ACM presented its first million-dollar A.M. Turing Award to Michael Stonebraker.

Statement of Activities:
Year ended June 30, 2015 (in Thousands)

REVENUE	Unrestricted	Temporarily Restricted	Total
Membership dues	$7,980		$7,980
Publications	20,860		20,860
Conferences and other meetings	27,313		27,313
Interests and dividends	1,888		1,888
Net appreciation of investments	569		569
Contributions and grants	5,466	$2,575	8,041
Other revenue	128		128
Net assets released from restrictions	1,421	(1,421)	0
Total Revenue	**65,625**	**1,154**	**66,779**
EXPENSES			
Program:			
Membership processing and services	$784		$784
Publications	10,842		10,842
Conferences and other meetings	24,792		24,792
Program support and other	10,256		10,256
Total	**46,674**		**46,674**
Supporting services:			
General administration	10,863		10,863
Marketing	1,343		1,343
Total	**12,206**		**12,206**
Total expenses	**58,880**		**58,880**
Increase (decrease) in net assets	6,745	1,154	7,899
Net assets at the beginning of the year	87,851	6,507	94,358
Net assets at the end of the year	**$94,596**	**$7,661**	**$102,257***

* Includes SIG Fund balance of $43,435K

Balance Sheet: June 30, 2015 (in Thousands)

ASSETS

Cash and cash equivalents	$43,577
Investments	80,833
Accounts receivable and other current assets	5,752
Deferred conference expenses and other assets	7,443
Fixed assets, net of accumulated depreciation and amortization	1,031
Total Assets	**$138,636**

LIABILITIES AND NET ASSETS

Liabilities:	
Accounts payable, accrued expenses, and other liabilities	$11,396
Unearned conference, membership, and subscription revenue	24,983
Total liabilities	**$36,379**
Net assets:	
Unrestricted	94,596
Temporarily restricted	7,661
Total net assets	**102,257**
Total liabilities and net assets	**$138,636**

Optional Contributions Fund — Program Expense ($000)	
Education Board accreditation	$95
USACM Committee	10
Total expenses	**$105**