

SIGARCH Annual Report

July 2006 - June 2007

Overview

The primary mission of SIGARCH continues to be the forum where researchers and practitioners of computer architecture can exchange ideas. SIGARCH sponsors or cosponsors the premier conferences in the field as well as a number of workshops. It publishes a quarterly newsletter and the proceedings of several conferences. It is financially strong with a fund balance of over one million dollars. The SIGARCH bylaws are available online at http://www.acm.org/sigs/bylaws/arch_bylaws.html.

Officers and Directors

During the past fiscal year Norm Jouppi served as SIGARCH Chair, Margaret Martonosi served as Vice Chair, and Matt Farrens served as Secretary/Treasurer. Alan Berenbaum, Joel Emer, Bill Dally, and Mark Hill served on the board of directors, and Alan Berenbaum also served as Past Chair. In addition to these elected positions, Doug DeGroot continues to serve as the Editor of the SIGARCH newsletter Computer Architecture News, and Doug Burger serves as Information Director, providing SIGARCH information online. Rob Schreiber serves as SIGARCH's liaison on the SC conference steering committee.

A SIGARCH election was held in the spring of 2007. Elected to new terms starting July 1, 2007 and continuing for two years were Doug Burger as Chair, David Wood as Vice Chair, Kevin Skadron as Secretary/Treasurer, and Sarita Adve, Krste Asanovic, Bill Dally, and Margaret Martonosi as board members. Norm Jouppi will serve as Past Chair.

Awards

The Eckert-Mauchly Award, cosponsored by the IEEE Computer Society, is the most prestigious award in computer architecture. SIGARCH endows its half of the award, which is presented annually at the Awards Banquet of ISCA. Mateo Valero received the award in 2007, "For extraordinary leadership in building a world class computer architecture research center, for seminal contributions in the areas of vector computing and multithreading, and for pioneering basic new approaches to instruction-level parallelism."

SIGARCH has endowed the Maurice Wilkes Award, an award established to recognize computer architects early in their careers, named after one of the pioneers of computer architecture who began making significant contributions early in his career. The award is selected by a vote of the Executive Committee and Board of SIGARCH, from a list of nominees supplied by a three person nominating committee. The 2007 award went to Todd Austin of the University of Michigan, "For innovative contributions to computer architecture including the SimpleScalar Toolkit and the DIVA and RAZOR architectures."

SIGARCH also cosponsors, along with the IEEE-CS TCCA, the Influential ISCA Paper Award which is presented annually at the ISCA conference. This award recognizes the paper, presented at the ISCA conference 15 years previously, which has had the most impact on computer architecture. The fifth Influential ISCA Paper Award was presented to Pohua Tse-Yu Yeh and Yale N. Patt for their paper "Alternative Implementations of Two-level Adaptive Branch Prediction" which appeared in the proceedings of the 19th ISCA (1992).

All three awards, the Eckert-Mauchly Award, the Maurice Wilkes Award, and the Influential ISCA Paper Award, were presented at ISCA 2007 in San Diego.

In 2007 the ACM Awards Committee approved the establishment of the SIGARCH Distinguished Service Award. This will be an annual award starting in 2008 to be presented to an individual who has contributed important service to the computer architecture community (not just to SIGARCH). The award will be

presented each year at ISCA. Nominations are due February 15th, and can be sent to the SIGARCH Secretary/Treasurer at any time. Many other SIGs have similar awards.

Conferences

SIGARCH is a 50% cosponsor of ISCA, the International Symposium on Computer Architecture, which is the premier conference in the field of computer architecture. The 34rd annual ISCA (ISCA 2007) was held in San Diego. Dean Tullsen was General Chair and Brad Calder was Program Chair. ISCA 2008 will be held in Beijing, with Kai Li and Jesse Fang serving as General Co-Chairs, and Wen-Mei Hwu serving as Program Chair. ISCA 2009 will be held in Austin, with Steve Keckler as General Chair. ISCA 2010 will be held in Paris, with André Seznec as General Chair.

The SC'XY Conference is jointly sponsored by SIGARCH and the IEEE Computer Society. Formerly known as the Supercomputing Conference, the conference has successfully evolved away from its focus on supercomputers and is now the High Performance Networking and Computing Conference. In addition to its technical success, SC'XY is large enough that it must be scheduled many years in advance. SC 2007 will be held in Reno.

SIGARCH is a cosponsor of the Conference on Architectural Support for Programming Languages and Operating Systems, commonly known as ASPLOS, along with SIGPLAN and SIGOPS. The conference had been held biannually since 1982, alternating its location between San Jose and Boston. Starting in 2008 the conference will be held annually, due to recent increased interdisciplinary work in hardware/software tradeoffs for multicores, virtualization support, etc. ASPLOS 2008 will be held in Seattle, with Susan Eggers serving as General Chair and Jim Larus serving as Program Chair, and will be collocated with Virtual Execution Environments (VEE) 2008. ASPLOS steering committee representatives of SIGPLAN and SIGOPS pointed out that their premier conferences are historically held within a week of ASPLOS's recent date in the fall. This conflict created a danger of ASPLOS degenerating into merely another architecture conference. This problem and a decision by the ASPLOS steering committee to move the 2008 conference to a date between but not including President's Day week and the first week with a significant number of spring breaks (the second week of March) was discussed at ASPLOS 2006. This time window allows papers rejected from OOPSLA or SOSP to be revised and resubmitted to ASPLOS, and papers rejected from ASPLOS to be revised and resubmitted to ISCA. Unfortunately, since there are over a dozen architecture conferences a year, moving any conference creates conflicts. The steering committee has done their best to minimize conflicts given the constraints above, and picked the dates furthest from HPCA within the window described above.

SIGARCH sponsors the International Conference on Supercomputing (ICS). ICS 2007 took place in Seattle in June. Burton Smith was the General Chair and Eduard Ayguade and Mateo Valero were the Program Co-Chairs.

The nineteenth Symposium on Parallel Algorithms and Architectures (SPAA 2007), jointly sponsored by SIGARCH and SIGACT, was held in San Diego as part of FCRC in June. Phil Gibbons was General Chair and Christian Scheideler was Program Chair.

SIGARCH is one-half cosponsor of the IEEE/ACM International Conference on Grid Computing. Grid '07 will be held in Austin. Warren Smith and Valerie Taylor are the General Co-Chairs and Thomas Fahringer is the Program Chair.

SIGARCH is one-half cosponsor of the International Symposium on High Performance Distributed Computing. HPDC '07 was held in Monterey, California. Carl Kesselman was the General Chair and Jack Dongarra and David Walker were the Program Co-Chairs.

SIGARCH is one-third cosponsor of the Conference on Parallel Architectures and Compiler Techniques (PACT), along with the IEEE Computer Society and IFIP, and annually held in the fall. PACT 2007 will take place in Brasov, Romania in September. Marc Snir is the General Chair and Lawrence Rauchwerger is the Program Chair.

SIGARCH is one-fourth co-sponsor of the Symposium on Architectures for Networking and Communications Systems (ANCS). The third ANCS, ANCS 2007, will be held in Orlando in December. Raj Yavatkar is General Chair and K. K. Ramakrishnan and Dirk Grunwald are Program Co-Chairs. ACM SIGCOMM and the IEEE are also co-sponsoring this conference.

In 2007 SIGARCH was a founding co-sponsor of the International Symposium on Networks-on-Chips (NOCS). SIGARCH also became a cosponsor of the International Conference on Autonomic Computing (ICAC) in 2007. The areas covered by these two conferences are both important new growth areas for our field.

In addition to the above conferences, SIGARCH has taken a small sponsorship position, or in-cooperation status, with several other conferences. For the last several years SIGARCH has been a minor sponsor of the International Conference on High Performance Computing (HiPC), held annually in December and alternating between Bangalore and Hyderabad, India. SIGARCH also has a small sponsorship position in SenSys, a conference on Sensor Systems. In addition, SIGARCH has in-cooperation status with Euro-Par, Cool Chips, GridNets, Nanonet, Infoscale, and the International Conference on Grid Computing (ICG).

Travel Grants

SIGARCH gives travel grants to students who attend ISCA or ASPLOS. The grants are restricted to student members of SIGARCH, following several votes of the SIGARCH membership. The precise amount of the grants depends on the number of students who apply, but we have made an attempt to give at least a modest grant to every student coauthor who applied. SIGARCH has also funded significant education programs at SC'05 and SC'06.

In 2007 SIGARCH sponsored a companion travel grant program for ISCA. This program provides funds for travel grants to attend ISCA 2007 for a companion care-provider for a SIGARCH member who are either (1) a person with a physical disability necessitating a companion, or (2) a parent of an infant less than one year old who cannot travel without the infant and a care-provider for the infant. To our knowledge this program is unique among SIGs. This program was presented to other SIGs at a SIG Governing Board (SGB) meeting, and may be adopted by other SIGs in the future as a best practice.

High-Performance Computing (HPC) Fellowship Endowment

In 2006 SIGARCH made a one-time grant of \$100K towards the endowment of a fellowship for Ph.D. students in high-performance computing. This program will be run by the SC steering committee. The SIGARCH special project funds used for this endowment were originally derived from the success of the SC conference series. SIGARCH is happy to help support future generations of this community.

Publications

CAN (Computer Architecture News), SIGARCH's newsletter, is published 4 times a year. In addition, the ISCA Proceedings form a special fifth issue, and the ASPLOS Proceedings is likewise distributed as a special sixth issue. The newsletter consists of technical contributions, reports of panels, Internet nuggets (the most interesting or controversial articles from the comp.arch newsgroup), book reviews, and calls for papers. There are occasional single topic special issues. Proceedings of SC, SPAA and ICS are available through the Member Plus program.

Finances

SIGARCH enjoys a healthy fund balance that is currently larger than the roughly one million dollar fund balance required by the ACM for sponsorship of SIGARCH conferences. SIGARCH actually loses money on each member, but makes money on average from conferences. The SC conference often has a large surplus due to its exhibition component. SIGARCH and the SC Steering Committee have agreed that future profits from SC'XY will be in large part returned to the SC community, in the form of a series of large project-

oriented grants (to be matched by the other sponsor of SC'XY, the IEEE Computer Society). In 2006 the grants provided funds for mentoring and education programs for the community.

Membership

SIGARCH membership has been essentially flat at around 1,500 members over the past several years. However SIGARCH's membership retention rate was the highest among all of ACM's SIGs in 2007, at 80%.

Summary

SIGARCH remains a financially healthy institution with an enthusiastic membership. The interest of its members can be gauged by the health of all of its major conferences in the past year. The challenges remain as they have in previous years: how to better serve our members, how to encourage other members of the architecture community to join, and how to use our fund balance most effectively.

Norm Jouppi
SIGARCH Past Chair