

## SIGARCH Annual Report

July 2015 – June 2016

### Mission statement

The mission of SIGARCH is to advance the field of computer architecture by enabling (1) premier fora for **technical exchange** on topics related to computer architecture, (2) **talent development and recognition** of computer architects, and (3) **outreach** across and outside the computing field to communicate and broaden the impact of architects.

### New SIGARCH Executive Committee

A new SIGARCH EC was elected in October 2016. We have restructured the EC to make it a fully working committee with each member leading at least one project and with teleconferences about once a month. As part of the restructuring, we revised our mission statement to emphasize three aspects to our mission – technical exchange, talent development, and outreach. We have started work on new projects within each component, with a particular emphasis on the new component of outreach. Notable new efforts include (planning for) **annual vision workshops, a new computer architecture blog, and lightning mentoring sessions at conferences**. Our presentation at the SIGARCH business meeting at ISCA in June 2016 was met with enormous enthusiasm from the broader community. This report provides a few highlights.

### Technical exchange

(1) Meetings: SIGARCH (co-)sponsors a strong portfolio of a variety of conferences. Most notably, the premier conference for computer architecture, ISCA, co-sponsored with IEEE, was held in Seoul in June'16 with a record attendance (about 760 registrations), record external sponsorships (about \$305,000), and an incredible organization effort by the local community, including the recently formed Korean SIGARCH chapter. Many sponsored conferences continue to co-host a variety of highly attended specialized workshops and tutorials on leading edge topics. A highlight this year was the Architecture 2030 Workshop, co-located with ISCA'16 and supported by the Computing Community Consortium, as part of its series of visioning activities to craft new directions for the field.

(2) SC transition: We are pleased to report that the transition of the SC conference from SIGARCH to the new SIGHPC has been completed smoothly and ahead of schedule. We wish to thank the past SIGARCH leadership, specifically David Wood, and the SIGHPC leadership for their efforts on this difficult task.

(3) **New: Reviewing the review process:** Key to our mission is a well-regarded peer review process for technical submissions. The SIGARCH business meeting at ISCA'16 included a presentation by T. N. Vijaykumar that identified potential problems and solutions in our review processes. Based on input from the audience, SIGARCH (in conjunction with IEEE) will appoint a committee to undertake a review of our peer-review process to systematically identify any shortcomings and propose changes (if needed).

### Talent development and recognition

(1) Current awards: The ACM/IEEE Eckert-Mauchly award is the most prestigious award in computer architecture given for contributions to computer and digital systems architecture. The 2016 recipient was Uri Weiser for “leadership and pioneering industry and academic work in high performance processors and multimedia architectures.” The SIGARCH Maurice Wilkes award is the most prestigious award given to a researcher in the first 20 years of their career and went to Timothy Sherwood for “contributions to novel program analysis advancing architectural modeling and security.” The SIGARCH/IEEE-CS TCCA influential ISCA paper award recognizes a paper from the ISCA 15 years earlier. The 2016 recipient was “Focusing processor policies via critical-path prediction,” by Brian Fields, Shai Rubin, and Rastislav

Bodík. The ASPLOS influential paper award recognizes an ASPLOS paper from 10 or more years ago. The 2016 recipient was “Limits of instruction-level parallelism” by David W. Wall from ASPLOS’91.

(2) Travel and child care grants: Student travel grants for conferences is our flagship benefit for student members. All conferences where SIGARCH co-sponsors at a level greater than 33% are eligible for student travel grant support. SIGARCH was a pioneer in supporting travel grants for companions for childcare or disability support. These have expanded to supporting on-site childcare. We are pleased to see other organizations provide similar support, including IEEE TCCA recently approving a similar program. We are currently revisiting our algorithms for travel grants and collecting data to make these even more effective.

(3) **New: SIGARCH Alan D. Berenbaum Distinguished Service Award:** SIGARCH is deeply saddened by the untimely loss of Alan Berenbaum. In memory of Alan’s many contributions to the SIGARCH community (including as SIGARCH chair), the SIGARCH distinguished service award has been renamed after Alan. The inaugural recipient is Michael Flynn for “the founding of SIGARCH.”

(4) **New: Dissertation award proposal:** The SIGARCH EC developed a proposal for a joint SIGARCH/IEEE CS TCCA dissertation award. This has been approved by TCCA and will be submitted shortly to ACM and IEEE.

(5) **New: Lightning mentoring sessions:** We ran a very successful pilot, “Meet a Senior Architect” at ISCA’16. Several senior architects signed up to mentor graduate students in one-on-one 30 minute sessions. This was a resounding success as assessed through informal feedback and a formal survey. We plan to expand this program.

## Outreach

The SIGARCH EC has added outreach to other communities as part of our mission with dual goals: (i) communicate the excitement and impact of architecture work to other communities and (ii) catalyze new directions within our own community by exposing us to exciting developments in other areas. Towards these goals, we have begun planning the following two activities, both inspired by the work of the Computing Community Consortium (CCC).

(1) **New: Annual SIGARCH vision workshops:** A committee co-chaired by Luis Ceze and Karin Strauss, with mentoring from Joel Emer, will seek proposals for annual workshops that will explore new areas and develop a vision for new future directions. Cross-disciplinary involvement will be a particular emphasis. Follow-up with white papers and other outreach or demonstrated impact will be a requirement.

(2) **New: Computer Architecture News Blog:** SIGARCH has traditionally published a conventional newsletter, Computer Architecture News (CAN) that has had a decline in submissions and readership over the years and whose function has been replaced in part by a monthly SIGARCH mailing with event announcements. We plan to replace CAN with a blog whose purpose is to advertise exciting developments in computer architecture and related areas broadly. The goal for the blog is to serve as the “go-to” source of information about computer architecture. Alvy Lebeck will be the inaugural editor, mentored by Babak Falsafi, with expected rollout in January 2017.

## Volunteer development process

We do not have a formal volunteer development process except to have the executive committee lead by example through its hard work. The community remains enthusiastic and we have been fortunate to be able to attract volunteers as needed. The SIGARCH business meeting at ISCA’16 was standing room only with several community members ranging from graduate students to senior researchers coming

forward voluntarily after the meeting to offer help for our proposed programs as well as suggesting new programs.

**Summary**

SIGARCH remains a financially healthy and vibrant organization with a broad and enthusiastic membership and committed leadership. The EC looks forward to implementing the many new ideas we have developed over the last year with the support of the larger community.

Respectfully submitted,

Sarita Adve, Chair  
On behalf of the SIGARCH Executive Committee