Welcome to MICRO-49! We are pleased to introduce the collection of papers selected for MICRO-49. The wide spectrum of interests in our community is very much reflected in the topics of the selected papers: the program includes papers ranging from traditional MICRO focus areas like processor microarchitecture, compilation techniques, and memory hierarchy design, to emerging areas like cloud computing, neural networks, and approximate computing. The high quality submissions and these ever-widening topics are signs of continuing dynamism and liveliness of the MICRO community.

**Submissions and reviews.** This year, we have received a record 288 submissions for the conference, out of which 61 were selected for the final program, for an overall acceptance rate of 21%. The selection of the papers was a challenging task and was done through an extensive process, during which the program committee and external reviewers submitted 1411 reviews (an average of 5 reviews/submission, with a minimum of 4 reviews for every paper discussed during the program committee meeting). For each paper, there were at least 3 reviews solicited from the PC members, and 2 more reviews were requested from the external review committee. All reviews were assigned by the program chairs during a two-day in-person meeting.

**Reviewer workload.** Due to the record number of submissions, this year’s reviewers faced a Herculean task. The PC members ended up reviewing 19-20 papers each, while many of the external reviewers submitted up to the maximum 6 reviews we had specified when they were invited to join the ERC. Prior MICRO conferences have utilized two rounds of review to reduce this workload, with only three reviews per paper in the first round, and two more reviews for papers above some fixed score threshold. Monte Carlo analysis of this year’s review database reveals only modest opportunity for savings in effort using this approach: in order to ensure that all 61 papers that were ultimately accepted would have made it into the second round, we would have had to set the second-round score threshold at 2.9/6.0 (just below weak reject). At that level, only 60 papers that were ultimately rejected would have been eliminated, reducing the PC workload by just 1.5 papers per PC member. If we had set the threshold at 4.0 (the neutral score), the reviewer workload would have seen a more significant reduction (5 fewer reviews per PC member, down to 15 papers each), but we would have simultaneously eliminated 21% of the accepted papers from consideration. In our opinion, the opportunity cost of eliminating this many good papers with only a marginal reduction in reviewer workload would do a disservice to our community, especially to the authors who work hard to submit high-quality work.

**Online discussion and rebuttal.** This year, we had an extended online discussion process including the entire PC and external review committee. More than 2000 comments were posted during the weeks before and after author rebuttals, and all reviewers were asked to submit their final, post-rebuttal review scores. At the end of the discussion period, 26 papers were nominated and unanimously approved (by all reviewers) for online acceptance, while 88 papers were rejected online since they had no review scores at accept or higher (4 inappropriate submissions were also rejected without
A further 98 papers fell below the discussion cutoff of 4.0 (average score below neutral), leaving 72 papers to discuss at the PC meeting.

**Program committee meeting.** We had an excellent turnout for the PC meeting. Despite the international setting of the PC meeting, which was held on June 18, 2016 in Seoul, Korea (collocated with ISCA-43), and a significant number of international PC members, 42 out of 46 members were present during the PC meeting, while three members attended remotely. We would like to thank all the PC members who have put great effort in providing the reviews and soliciting additional expert reviews. We would also like to thank the 169 members of the external review committee, who provided one to six reviews each, as well as additional outside expert reviews, who typically provided an additional, sometimes last-minute, review where needed.

We would like to thank many people who have helped us along the way. First, we would like to thank the authors for preparing high quality submissions to the conference. We would especially like to thank Chih-Chen Kao, our Submission Chair, and Yu-Tsung Miao, who set up the submission site and kept it running smoothly, as well as Koji Inoue, Vijay Reddi, and Albert Cohen, our Publicity Chairs who did a great job advertising the earlier submission deadline and soliciting high-quality papers, Bo-Cheng Charles Lai, our Publication Chair, who handled all issues related to camera-ready paper submission, copyrights, and preparation of proceedings, and David Brooks for handling everything related to the workshops and tutorials. We thank Margaret Martonosi and Uming Ko who kindly accepted our invitation to be MICRO-49’s keynote speakers without any hesitation. We also want to express our gratitude to recent Program Chairs Moin Qureshi and Tom Wenisch for their helpful suggestions and advice. Finally, we owe a debt of gratitude to the entire Organizing Committee, especially the General Chairs Wei-Chung Hsu and Chia-Lin Yang, for putting together the conference and arranging all the needed facilities for paper presentation and posters.

Last but not least, we would like to thank the Steering Committee, led by Rich Belgard, for their advice and guidance throughout the entire process.

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*Program Co-Chairs, MICRO-49*