Message from the Program Chair

On behalf of the Program Committee, I am delighted to present you the technical program for MICRO-46.

The program includes 39 papers selected from 239 submissions. The program committee (PC) of 40 distinguished experts used a two-round review process. In the first round, all papers received 2 reviews from PC members and one review from an external expert. The 169 papers with at least one review with a positive score for overall merit were promoted to the second round. In the second round, papers received at least one review from a PC member and one review from an external expert, for a minimum total of 5 reviews per paper. Nevertheless, we solicited up to 7 reviews for some papers in order to provide additional expert opinions for the selection process. Overall, 363 reviewers submitted 1,105 paper reviews. I personally selected all PC and external reviewers for each paper after careful examination of the papers. For the 17 papers that I had a conflict-of-interest with, Scott Mahlke made all reviewer selections and led any discussion at the PC meeting.

At the conclusion of the review process, authors were given the opportunity to respond to the review comments and scores via the rebuttal process. We made the author rebuttals available to all reviewers for a week-long online discussion. Reviewers were encouraged to debate reviews and rebuttals, update their reviews and scores as needed, and notify me if there was a need for additional input from specific experts. As a result, a small number of reviews from PC members and external reviewers were solicited for the most challenging papers.

The Program Committee met for 1.5 days on August 24-25, 2012 at the Hilton Chicago O'Hare Airport to select the papers for the program. We considered the top 122 submissions and discussed 69 of them, including the high-ranked submissions under various average metrics and any paper that a PC member without a conflict-of-interest wanted to discuss regardless of its ranking. Decisions were based on a vote open to all committee members without a conflict-of-interest from the very beginning. To lessen the impact of biased reviews and ensure broad consensus, we required that at least one third of the PC participate in each vote. As a result, papers received extensive discussion during the meeting that led to high quality decisions and additional feedback for the authors. We also decided to shepherd a few papers in order help authors address minor shortcoming in otherwise excellent pieces of research. All reviews and additional comments from the PC meeting were released to the authors after the meeting. We hope that this information will help all authors improve their research, regardless of the outcome for their submission.

The final program includes papers that represent all exciting topics in our field: heterogeneous architectures, approximate computing, hardware and software optimization for graphics processors, energy-efficient processor and memory hierarchies, power management, storage systems, resilience techniques, and main memory systems. In addition to the paper presentations, the program includes a single-track session with brief presentations on the key idea in every paper (lightning talks) and a poster session. We hope that these two sessions will enable attendees to get exposure to the whole program and delve into the detailed contributions of the papers with their authors during the conference. We will post all presentations, lightning talks, and posters on the conference webpage after the end of the conference. We are also particularly excited about the two keynote talks. The first keynote by Bryan Black (Senior Fellow, AMD) will discuss the impact of advanced integration techniques, 2.5-D and 3-D, on the computing industry. The second keynote by Vidya Rajagopalan (VP of Processing Systems, Xilinx) will review the evolution of programmable hardware devices (FPGAs) and their role in the era of heterogeneous computing.

The MICRO'46 program is the result of the hard work of the PC members that sacrificed a significant portion of their free time this summer to provide service to our community. I am grateful for their

professionalism in all aspects of their duties. I would also like to thank the external reviewers for their thorough reviews, often at a very short notice. I am particularly thankful to the PC members that diligently shepherded papers, working closely with the authors for weeks past the program selection. I would also like to recognize the PC members that volunteered to be session chairs during the conference. Special thanks to Scott Mahlke who handled all aspects of submissions that I had a conflict-of-interest with. Special thanks to David Brooks, John Carter, Wen-mei Hwu, and Matt Farrens for their help in the best paper selection process. Finally, I am grateful to Christina Delimitrou and David Lo, the submission chairs that managed the submission system, providing both authors and reviewers with a very smooth experience. They also handled preparations for the PC meeting and note-taking and time management during the meeting. They deserve a lot of credit for a well-organized and productive meeting.

I would also like to thank the members of the organizing committee, in particular Matt Farrens, the general chair, for the continuous support to all program committee activities and requests. Chris Nitta has been incredibly helpful with webpage management and the logistics for the PC meeting and the conference itself. Adrienne Griscti of ACM helped with the PC meeting and publication issues as well. I am grateful to all the members of the steering committee for their valuable advice, and in particular Rich Belgard, Tom Conte, Wen-mei Hwu, Margaret Martonosi, Onur Mutlu, and Yale Patt for always being available for questions and for acting as a sounding board throughout the process. Andreas Moshovos and Guri Sohi also provided valuable feedback, and I thank them for that. I would also like to thank the two keynote speakers, Bryan Black and Vidya Rajagopalan, for accepting the invitation to share their insights with us.

Finally, I would like to thank all the authors that submitted papers to MICRO'46. The strong program is a reflection of a thriving research community with hardworking members with broad interests.

I hope you all enjoy the technical program of MICRO-46 and the opportunity to exchange ideas and interact with colleagues at the beautiful campus of UC Davis.

Christos Kozyrakis
Program Chair, MICRO-46