

Preface

The 30th International Conference on Computer Architecture (ARCS 2017) was hosted by the Complang Group at the Vienna University of Technology during April 3–6, 2017. It was organized by the special interest group on “Architecture of Computing Systems” of the GI (Gesellschaft für Informatik e. V.) and ITG (Informationstechnische Gesellschaft im VDE).

The ARCS conferences series has over 30 years of tradition in reporting leading-edge research in computer architecture and operating systems. It covers a wide spectrum of topics from embedded and real-time to large-scale parallel systems as well as from hardware design to software techniques required to exploit new hardware systems efficiently. It also covers various cross-cutting themes, such as autonomous optimization, power and energy awareness, and resilience, providing a comprehensive platform for systems research. Additionally, a new topic on post-Moore architectures was added for this year.

Each year the conference selects a special focus topic, which for 2017 was “Heterogeneous Node Architectures with Deep Memory Systems.” This selection reflects current trends in node design in high-performance computing (HPC) environments, which increasingly feature deeper and more complex memory hierarchies, the integration of non-volatile storage, as well as the use of accelerators, such as GPUs, to satisfy the ever-rising demand for computational power.

The conference attracted 42 submissions from authors in 19 countries. Each paper was reviewed by a diverse and dedicated Program Committee, which submitted a total of 199 reviews. Most papers received five reviews and final decisions were made based on the reviews as well as online discussions. Following this process, the Program Committee ended up accepting 19 papers by authors from 11 countries. These papers were organized into seven sessions: Resilience (2 papers), Accelerators (3 papers), Performance (2 papers), Memory Systems (3 papers), Parallelism and Many-core (4 papers), Scheduling (2 papers), and Power/Energy (3 papers).

ARCS has a long tradition of hosting associated workshops, four of which were held in conjunction with the main conference this year: the 5th International Workshop on Self-Optimization in Autonomic and Organic Computing Systems (SAOS), the 13th Workshop on Dependability and Fault Tolerance (VERFE), the Second FORMUS³IC Workshop, and, for the first time in 2017, the Workshop on Computer Architectures in Space (CompSpace).

We would like to thank the many individuals who contributed to the success of the conference, in particular the members of the Program Committee as well as the additional external reviewers, for the time and effort they put into reviewing the submissions carefully and selecting a high-quality program. Many thanks also to all authors for submitting their work. The workshops were organized and coordinated by

Carsten Trinitis, the proceedings were compiled by Thilo Pionteck and Gerald Krell, and the website was maintained by Markus Hoffmann. Our gratitude goes to all of them as well as all other people who helped in the organization of ARCS 2017.

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