6th Workshop on Runtime and Operating Systems for the Many-core Era (ROME 2018)

Since the beginning of the multicore era, parallel processing has become prevalent across the board. However, in order to continue a performance increase according to Moore's Law, a next step needs to be taken: away from common multicores towards innovative many-core architectures. Such systems, equipped with a significant higher number of cores per chip than multicores, pose challenges in both hardware and software design. On the hardware side, complex on-chip networks, scratchpads, hybrid memory cubes, non-volatile memory and stacked memory, as well as deep cache-hierarchies and novel cache-coherence strategies will enrich the current research areas in the future.

However, the ROME workshop (Runtime and Operating Systems for the Many-- core Era) focuses on the software side because without complying system software, runtime and operating system support, all these new hardware facilities cannot be exploited. Hence, the new challenges in hardware/software co-design are to step beyond traditional approaches and to venture new programming models and operating system designs in order to exploit the theoretically available performance of future hardware as effectively and power-aware as possible.

The ROME workshop was organized for the sixth time and this year in conjunction with the International Parallel and Distributed Processing Symposium 2018 (IPDPS 2018) in Vancouver, Canada. The organizers were particularly very happy that Sang-Hoon Kim from the System Software Research Group at Virginia Tech, USA, volunteered to deliver the invited keynote talk about "Popcorn Linux – System Software for Heterogeneous Hardware". In addition, a second invited talk, delivered by Karl Fuerlinger from the Ludwig-Maximilians-University Munich, Germany, enriched the regular workshop program composed of five selected paper presentations.

Each submitted paper was assigned to at least four PC members for review and some particularly disputed papers were subject to even more reviews. The assignment of papers to reviewers was done according to the overall research interests and expertise of each PC member. The reviewers were encouraged to give a detailed review in order to justify their vote. The final acceptance/rejection decision was discussed and appointed by the workshop organizers and was based on the weighted scores assigned by the reviewers. Four high-quality papers could be accepted for presentation in two sessions at the workshop.

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