PROCEEDINGS OF
THE 2012 INTERNATIONAL CONFERENCE ON
ENGINEERING OF RECONFIGURABLE SYSTEMS &
ALGORITHMS

ERSA 2012

Editor

Toomas P. Plaks

This volume contains papers presented at The 2012 International Conference on Engineering of Reconfigurable Systems & Algorithms (ERSA'12). Their inclusion in this publication does not necessarily constitute endorsements by editors or by the publisher.

ERSA'12

ENGINEERING OF RECONFIGURABLE SYSTEMS AND ALGORITHMS

The international conference on Engineering of Reconfigurable Systems and Algorithms (ERSA) was founded in 2001 and, since then, has been held each year in Las Vegas.

ERSA conference focuses on different approaches in engineering of reconfigurable systems: in hardware design and in implementing of algorithms; including theory, architecture, algorithms, design systems and applications that demonstrate the benefits of reconfigurable computing. ERSA conference solicits papers from all aspects of reconfigurable computing, including classical programmable logic, as well as configurable multiprogramming related papers.

Topics of interest include but are not limited to:

- Theory - Synthesis, Mapping, Parallelization, Partitioning...

- Software - CAD, Languages, Compilers, Operating Systems...

- Hardware - Adaptive and Dynamic Hardware, Reconfigurable Architectures...

- Applications - Mobile Computing, Automotive Industry, Smart Cameras...

ERSA conference explores emerging trends and novel ideas in the area of parallel, reconfigurable, high-performance computing architecture, design methods and applications. ERSA is promoting multi-disciplinary research and new visionary approaches including bio-inspired architectures, computational biology, physics etc.

ERSA conference brings together leading scientists and researchers from academia and industry. ERSA is aiming to provide a forum where new research results can be quickly published and presented to research community, where people can discuss and share the latest ideas without a long publishing time. Only one and half months are required from submitting a paper to presenting it at the conference when following late CFP option. Late papers, which are not ready for conference time publication, are published in post-conference proceedings, in the official ERSA proceedings. All conference proceedings/books are considered for inclusion in major database indexes.

After the conference, best ERSA papers are published in special issues of reputable international journals: in The Journal of Supercomputing (Springer), IEEE TVLSI, ACM Transactions on Embedded Computing Systems.

This year, the ERSA conference accepted academic and industrial papers. We will continue with industrial sessions and papers in upcoming years. The ERSA'12 program includes keynote and invited papers, featured and regular session, regular papers, short papers and posters. Finally, ERSA has two hot topics this year:

- Developing Heterogeneous Computing Systems (Multicore, CPU Plus FPGA,...)

- Hardware Security And Trust In Reconfigurable Heterogeneous Systems

I hope that the ERSA conference, covering different aspects of reconfiguration techniques, will raise your awareness about the scope of reconfigurable or adaptive computing.

I would like to thank the authors for submitting their papers to ERSA'12 and for preparing the final versions of their papers for due date. I hope you all will have successful and enjoyable meeting in Las Vegas this year and I hope to meet you again in next years. I would like to extend my deepest gratitude for the efforts extended by the ERSA'12 Program Committee and to all external reviewers for their careful reading of all of the submitted papers.

Last but not least, I would like to thank the organizing team of The 2012 World Congress in Computer Science, Computer Engineering, and Applied Computing, and, especially, the General Chair Prof. Hamid Arabnia, for the continuous support and help in organizing the ERSA conference.

Toomas P. Plaks
ERSA Chairman
London
Oct., 2012

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