Call for Papers

Springer Journal on Computing

Special Issue On:

On-Chip Parallel and Network-Based Systems

General Scope

In order to achieve functionality with low energy speed product, on-chip parallel and network-based system design requires larger device, multi block functions, and energy evaluation schemes. Such systems, which are emerging as the architecture of choice for future high performance processors, require efficient interconnect which are necessary to satisfy the data supply needs of all cores.

This special issue attempts to cover new ideas in the design and analysis of on-chip communication technology, architecture, design methods and applications. It brings together research efforts of scientists and engineers working on on-chip innovations from related research communities, including parallel computer architecture, networking, and embedded systems. Topics of interest include, but are not limited to:

- On-chip network architecture (topology, routing, arbitration, ...)
- 3D stacked logic and memory
- Processor allocation and scheduling in many/multi-core processors
- Mapping
- Reliability and Reconfigurability issues
- OS and compiler support
- Performance and power issues
- Metrics, benchmarks, and trace analysis
- Workload characterization & evaluation
- Modeling and simulation
- Synthesis, verification, debug & test
- Design methodologies and tools
- Quality of service
- FPGAs and structured ASICs
- Application-specific design issues
- Parallel programming models and tools
- Memory system design and optimizations

Important Dates

Submission deadline: 15 April 2013
Notification of interim decision: 15 July 2013
Revised paper submission due: 15 August 2013
Final decision: 15 October 2013
Final paper due: 15 November 2013

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Submission Information

Authors of accepted papers at the On-Chip Parallel and Network-Based Systems (OCPNBS) track at the 21st international conference on parallel, distributed and network-based computing (PDP) will be invited to submit an extended version of their paper. In addition, any other high quality submission that fits the topics of this special issue is welcome. All invited papers will be subjected to the same rigorous review process as the regular submissions to this special issue. Submitted articles must not have been previously published or currently submitted for publication elsewhere. For work that has been published previously in a workshop or conference, it is required that submissions to the special issue have at least 30% new content. Submissions that do not meet this requirement will be rejected without review. The papers should be submitted via the Manuscript Central website and should adhere to standard formatting requirements.