

Symmetry in Distributed Algorithms and Parallel Algorithms and Their Applications

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Message from the Guest Editors

Dear Colleagues,

This Special Issue is devoted to all aspects of parallel and distributed computing, high-performance computing, and multithreading. We also invite researchers and developers in such fields as performance engineering, code generation and optimization. This includes parallel programming libraries and languages, high-performance computing, concurrent algorithms and data structures, distributed architectures, tools, runtime-systems, and applications, modern compilers and algorithms for code optimization with particular focus on quality, performance, and scalability. We also expect that these Special Issues will discover the ideas of symmetry in these fields. Thus, the goal of the Special Issue is to improve understanding of the principles underlining parallel and distributed algorithms, to reveal the connection between high-performance and multithreading computing, as well as compiler optimization, and asymmetry above all.

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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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