

Preface

The Third International Conference on High-Performance Computing and Applications (HPCA 2015) formed part of a series of successful events that started in 2004. It was held in Shanghai, a beautiful, active, and modern city in China, during July 26–30, 2015. This series serves as a forum to present current work by researchers and software developers from around the world as well as to highlight activities in the high-performance computing area. It aims to bring together research scientists, application pioneers, and software developers to discuss problems and solutions and to identify new issues in this area. The third conference emphasized the development and study of novel approaches for high-performance computing, the design and analysis of high-performance numerical algorithms, and their scientific, engineering, and industrial applications. It offered the conference participants a great opportunity to exchange the latest research results, heighten international collaborations, and discuss future research ideas on high-performance computing and applications. High-performance computing and applications are still a hot research topic. The proceedings of the Second International Conference on High-Performance Computing and Applications (HPCA 2009) have been downloaded on-line over 70,000 times.

In addition to 26 invited presentations, the third conference received over 100 submissions from over ten countries and regions worldwide, about 50 of which were accepted for presentation at HPCA 2015. The proceedings contain some of the invited presentations and the contributed submissions, and cover such research areas of interest as numerical algorithms and solutions, high-performance and grid computing, novel approaches to high-performance computing, massive data storage and processing, hardware acceleration, and their wide applications.

The third conference was co-organized by the School of Computer Engineering and Science and High-Performance Computing Center, Shanghai University, and co-sponsored by Shanghai Jiao Tong University, Xi'an Jiao Tong University, and the University of Calgary. The conference organizers would like to thank Springer for publishing the conference proceedings as a volume in the series of *Lecture Notes in Computer Sciences*.

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