

1. Record Nr.	UNINA9910807862303321
Titolo	Parallel computing : accelerating computational science and engineering (CSE) // edited by Michael Bader [and five others]
Pubbl/distr/stampa	Amsterdam, Netherlands ; ; Fairfax, Virginia : , : IOS Press, , 2014 ©2014
ISBN	1-61499-381-5
Descrizione fisica	1 online resource (868 p.)
Collana	Advances in Parallel Computing, , 1879-808X ; ; Volume 25
Disciplina	004.35
Soggetti	Parallel processing (Electronic computers)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"This volume of the series "Advances in Parallel Computing" contains the proceedings of the International Conference on Parallel Programming - ParCo 2013 - held from 10 to 13 September 2013 in Garching, Germany."
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	""Title Page""; ""Preface""; ""Conference Organisation""; ""Contents""; ""Invited Talks""; ""Extreme Data Science at the National Energy Research Scientific Computing (NERSC) Center""; ""Performance Analysis Techniques for the Exascale Co-Design Process""; ""Parallel Programming Models""; ""XMP-IO Function and Its Application to MapReduce on the K Computer""; ""POLCA - A Programming Model for Large Scale, Strongly Heterogeneous Infrastructures""; ""Exploitation of Quality/Throughput Tradeoffs in Image Processing Through Invasive Computing"" ""An Efficient Thread Mapping Strategy for Multiprogramming on Manycore Processors""; ""A Scalable Farm Skeleton for Heterogeneous Parallel Programming""; ""Towards Truly Boolean Arrays in Data-Parallel Array Processing""; ""Deep Packet Inspection on Commodity Hardware Using FastFlow""; ""Performance Analysis and Tools""; ""Formalizing Bottlenecks in Task-Based OpenMP Applications""; ""Characterizing Performance of Applications on Blue Gene/Q""; ""Specification of Periscope Tuning Framework Plugins""; ""Parallel Numerical Linear Algebra"" ""On Using Speculative Computations for Parallel Reduction to

Tridiagonal Form"""; "Fast Approximate Solution of the Non-Symmetric Generalized Eigenvalue Problem on Multicore Architectures"; "Locality Optimization on a NUMA Architecture for Hybrid LU Factorization"; "Variable Block Algebraic Recursive Multilevel Solver (VBARMS) for Sparse Linear Systems"; "A Proposal of a Single-Synchronized Solver Suited to Large Scale Linear Systems on Parallel Computers with Distributed Memory"; "Approximate Inverse Preconditioners for Krylov Methods on Heterogeneous Parallel Computers"; "Cache and Energy Efficiency of Sparse Matrix-Vector Multiplication for Different BLAS Numerical Types with the RSB Format"; "Heterogeneous Sparse Matrix Computations on Hybrid GPU/CPU Platforms"; "Parallel Algorithms"; "MapReduce Streaming Algorithms for Laplace Relaxation on the Cloud"; "Space Exploration Using Parallel Orbits: A Study in Parallel Symbolic Computing"; "SFC-Based Communication Metadata Encoding for Adaptive Mesh Refinement"; "Graph Repartitioning with Both Dynamic Load and Dynamic Processor Allocation"; "ForestClaw: Hybrid Forest-of-Octrees AMR for Hyperbolic Conservation Laws"; "A Space-Time Parallel Solver for the Three-Dimensional Heat Equation"; "An Efficient Pipelined Implementation of Space-Time Parallel Applications"; "GPU Computing and Applications"; "Efficient GPU-Based Optimization of Volume Meshes"; "Fast Uniform Grid Construction on GPGPUs Using Atomic Operations"; "Porting Large HPC Applications to GPU Clusters: The Codes GENE and VERTEX"; "Numerical Simulation of the Low Compressible Viscous Gas Flows on GPU-Based Hybrid Supercomputers"; "Simulation of Multiphase Flows in the Subsurface on GPU-Based Supercomputers"

Sommario/riassunto

Parallel computing has been the enabling technology of high-end machines for many years. Now, it has finally become the ubiquitous key to the efficient use of any kind of multi-processor computer architecture, from smart phones, tablets, embedded systems and cloud computing up to exascale computers. This book presents the proceedings of ParCo2013 - the latest edition of the biennial International Conference on Parallel Computing - held from 10 to 13 September 2013, in Garching, Germany. The conference focused on several key parallel computing areas. Themes included parallel programming models
