Table of contents provided by Syndetics

- List of Contributors (p. ix)
- **Preface** (p. xv)
- Acknowledgements (p. xxiii)
- Acronyms (p. xxv)
- Part I Foundations
- 1 Multi- and Many-Cores, Architectural Overview for Programmers (p. 3)
- 2 Programming Models for MultiCore and Many-Core Computing Systems (p. 29)
- 3 Lock-free Concurrent Data Structures (p. 59)
- 4 Software Transactional Memory (p. 81)
- Part II Programming Approaches
- **5 Hybrid/Heterogeneous Programming with OmpSs and its Software/Hardware implications** (p. 101)
- 6 Skeleton Programming for Portable Many-Core Computing (p. 121)
- 7 DSL Stream Programming on Multicore Architectures (p. 143)
- 8 Programming with Transactional Memory (p. 165)
- 9 Object-Oriented Stream Programming (p. 185)
- 10 Software-Based Speculative Parallelization (p. 205)
- 11 Autonomic Distribution and Adaptation (p. 227)
- Part III Programming Frameworks
- 12 PEPPHER: Performance Portability and Programmability for Heterogeneous Many-Core Architectures (p. 243)
- 13 Fastflow: High-Level and Efficient Streaming on Multicore (p. 261)
- 14 Parallel Programming Framework for H.264/AVC Video Encoding in Multicore Systems (p. 281)
- **15** Parallelizing Evolutionary Algorithms on GPGPU Cards with the EASEA Platform (p. 301)
- Part IV Testing, Evaluation and Optimization
- 16 Smart Interleaves for Testing Parallel Programs (p. 323)
- 17 Parallel Performance Evaluation and Optimization (p. 342)
- 18 A Methodology for Optimizing Multithreaded System Scalability on Multicores (p. 363)
- 19 Improving Multicore System Performance through Data Compression (p. 385)
- Part V Scheduling and Management
- 20 Programming and Managing Resources on Accelerator-Enabled Clusters (p. 407)
- 21 An Approach for Efficient Execution of SPMD Applications on Multicore Clusters (p. 431)
- 22 Operating System and Scheduling for Future Multicore and Many-Core Platforms (p. 451)
- **Glossary** (p. 475)
- **Index** (p. 481)