

Languages And Compilers For Parallel Computing 19th International Workshop Lcpc 2006 New Orleans La Usa November 2 4 2006 Revised Papers Computer Science And General Issues

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Languages and Compilers for Parallel Computing -

Călin Cașcaval 2014-09-30

This book constitutes the thoroughly refereed post-conference proceedings of the 26th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2013, held in Tokyo, Japan, in September 2012. The 20 revised full papers and two keynote papers presented were carefully reviewed and selected from 44 submissions. The focus of the papers is on following topics: parallel programming models, compiler analysis techniques, parallel data structures and parallel execution models, to GPGPU and other heterogeneous

execution models, code generation for power efficiency on mobile platforms, and debugging and fault tolerance for parallel systems.

Languages and Compilers for Parallel Computing -

José Nelson Amaral 2008-11-28

In 2008 the Workshop on Languages and Compilers for Parallel Computing left the USA to celebrate its 21st anniversary in Edmonton, Alberta, Canada. Following its long-established tradition, the workshop focused on topics at the frontier of research and development in languages, optimizing compilers, applications, and programming models for high-performance computing. While

LCPC continues to focus on parallel computing, the 2008 edition included the presentation of papers on program analysis that are precursors of high performance in parallel environments. LCPC 2008 received 35 paper submissions. Each paper received at least three independent reviews, and then the papers and the referee comments were discussed during a Program Committee meeting. The PC decided to accept 18 papers as regular papers and 6 papers as short papers. The short papers appear at the end of this volume. The LCPC 2008 program was fortunate to include two keynote talks. Keshav Pingali's talk titled "Amorphous Data Parallelism in Irregular Programs" - argued that irregular programs have data parallelism in the iterative processing of worklists. Pingali described the Galois system developed at The University of Texas at Austin to exploit this kind of amorphous data parallelism. The second keynote talk, "Generic Parallel Algorithms in

Threading Building Blocks (TBB)," presented by Arch Robison from Intel Corporation addressed very practical aspects of using TBB, a production C++ library, for generic parallel programming and contrasted TBB with the Standard Template Library (STL).

Languages and Compilers for Parallel Computing - Gheorghe Almási 2007-06-11

This book constitutes the thoroughly refereed post-proceedings of the 19th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2006, held in New Orleans, LA, USA in November 2006. The 24 revised full papers presented together with two keynote talks cover programming models, code generation, parallelism, compilation techniques, data structures, register allocation, and memory management.

Compiler Construction - 2005

Languages and Compilers for Parallel Computing - James Brodman 2015-04-30

This book constitutes the thoroughly refereed post-conference proceedings of the 27th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2014, held in Hillsboro, OR, USA, in September 2014. The 25 revised full papers were carefully reviewed and selected from 39 submissions. The papers are organized in topical sections on accelerator programming; algorithms for parallelism; compilers; debugging; vectorization.

Programming Languages and Systems - Hakjoo Oh
2021-10-12

This book constitutes the proceedings of the 19th Asian Symposium on Programming Languages and Systems, APLAS 2021, held in Chicago, USA, in October 2021.* The 17 papers presented in this volume were carefully reviewed and selected from 43 submissions. They were organized in topical sections named: analysis and synthesis, compilation and transformation, language, and verification. * The conference

was held in a hybrid format due to the COVID-19 pandemic.
Languages and Compilers for Parallel Computing - Utpal Banerjee 1994-01-28

This book contains papers selected for presentation at the Sixth Annual Workshop on Languages and Compilers for Parallel Computing. The workshop was hosted by the Oregon Graduate Institute of Science and Technology. All the major research efforts in parallel languages and compilers are represented in this workshop series. The 36 papers in the volume are grouped under nine headings: dynamic data structures, parallel languages, High Performance Fortran, loop transformation, logic and dataflow language implementations, fine grain parallelism, scalar analysis, parallelizing compilers, and analysis of parallel programs. The book represents a valuable snapshot of the state of research in the field in 1993.

Handbook of Signal Processing Systems - Shuvra S. Bhattacharyya 2018-10-13

In this new edition of the Handbook of Signal Processing Systems, many of the chapters from the previous editions have been updated, and several new chapters have been added. The new contributions include chapters on signal processing methods for light field displays, throughput analysis of dataflow graphs, modeling for reconfigurable signal processing systems, fast Fourier transform architectures, deep neural networks, programmable architectures for histogram of oriented gradients processing, high dynamic range video coding, system-on-chip architectures for data analytics, analysis of finite word-length effects in fixed-point systems, and models of architecture. There are more than 700 tables and illustrations; in this edition over 300 are in color. This new edition of the handbook is organized in three parts. Part I motivates representative applications that drive and apply state-of-the art methods for design and implementation

of signal processing systems; Part II discusses architectures for implementing these applications; and Part III focuses on compilers, as well as models of computation and their associated design tools and methodologies.

Encyclopedia of Parallel Computing - David Padua
2011-09-08

Containing over 300 entries in an A-Z format, the Encyclopedia of Parallel Computing provides easy, intuitive access to relevant information for professionals and researchers seeking access to any aspect within the broad field of parallel computing. Topics for this comprehensive reference were selected, written, and peer-reviewed by an international pool of distinguished researchers in the field. The Encyclopedia is broad in scope, covering machine organization, programming languages, algorithms, and applications. Within each area, concepts, designs, and specific implementations are presented. The highly-

structured essays in this work comprise synonyms, a definition and discussion of the topic, bibliographies, and links to related literature. Extensive cross-references to other entries within the Encyclopedia support efficient, user-friendly searches for immediate access to useful information. Key concepts presented in the Encyclopedia of Parallel Computing include; laws and metrics; specific numerical and non-numerical algorithms; asynchronous algorithms; libraries of subroutines; benchmark suites; applications; sequential consistency and cache coherency; machine classes such as clusters, shared-memory multiprocessors, special-purpose machines and dataflow machines; specific machines such as Cray supercomputers, IBM's cell processor and Intel's multicore machines; race detection and auto parallelization; parallel programming languages, synchronization primitives, collective operations, message passing libraries,

checkpointing, and operating systems. Topics covered: Speedup, Efficiency, Isoefficiency, Redundancy, Amdahls law, Computer Architecture Concepts, Parallel Machine Designs, Benchmarks, Parallel Programming concepts & design, Algorithms, Parallel applications. This authoritative reference will be published in two formats: print and online. The online edition features hyperlinks to cross-references and to additional significant research. Related Subjects: supercomputing, high-performance computing, distributed computing
Languages and Compilers for Parallel Computing - Lawrence Rauchwerger
2004-02-25

This book constitutes the thoroughly refereed post-proceedings of the 16th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2003, held in College Station, Texas, USA, in October 2003. The 35 revised full papers presented were selected from 48 submissions during two

rounds of reviewing and improvement upon presentation at the workshop. The papers are organized in topical sections on adaptive optimization, data locality, parallel languages, high-level transformations, embedded systems, distributed systems software, low-level transformations, compiling for novel architectures, and optimization infrastructure. Languages and Compilers for Parallel Computing - Siddhartha Chatterjee 2003-06-26 LCPC'98 Steering and Program Committee for their time and energy in reviewing the submitted papers. Finally, and most importantly, we thank all the authors and participants of the workshop. It is their significant research work and their enthusiastic discussions throughout the workshop that made LCPC'98 a success. May 1999 Siddhartha Chatterjee Program Chair Preface The year 1998 marked the eleventh anniversary of the annual Workshop on Languages and Compilers for Parallel Computing (LCPC), an

international - rum for leading research groups to present their current research activities and latest results. The LCPC community is interested in a broad range of technologies, with a common goal of developing software systems that enable real applications. Among the topics of interest to the workshop are language features, communication code generation and optimization, communication libraries, distributed shared memory libraries, distributed object systems, resource management systems, integration of compiler and runtime systems, irregular and dynamic applications, performance evaluation, and debuggers. LCPC'98 was hosted by the University of North Carolina at Chapel Hill (UNC-CH) on 7 - 9 August 1998, at the William and Ida Friday Center on the UNC-CH campus. Fifty people from the United States, Europe, and Asia attended the workshop. The program committee of LCPC'98, with the help of external reviewers,

evaluated the submitted papers. Twenty-four papers were selected for formal presentation at the workshop. Each session was followed by an open panel discussion centered on the main topic of the particular session.

Euro-Par 2014: Parallel Processing - Fernando Silva
2014-08-11

This book constitutes the refereed proceedings of the 20th International Conference on Parallel and Distributed Computing, Euro-Par 2014, held in Porto, Portugal, in August 2014. The 68 revised full papers presented were carefully reviewed and selected from 267 submissions. The papers are organized in 15 topical sections: support tools environments; performance prediction and evaluation; scheduling and load balancing; high-performance architectures and compilers; parallel and distributed data management; grid, cluster and cloud computing; green high performance computing; distributed systems and algorithms; parallel and

distributed programming; parallel numerical algorithms; multicore and manycore programming; theory and algorithms for parallel computation; high performance networks and communication; high performance and scientific applications; and GPU and accelerator computing.

Euro-Par 2012 Parallel Processing - Christos Kaklamanis
2012-08-23

This book constitutes the thoroughly refereed proceedings of the 18th International Conference, Euro-Par 2012, held in Rhodes Islands, Greece, in August 2012. The 75 revised full papers presented were carefully reviewed and selected from 228 submissions. The papers are organized in topical sections on support tools and environments; performance prediction and evaluation; scheduling and load balancing; high-performance architectures and compilers; parallel and distributed data management; grid, cluster and cloud computing; peer to peer

computing; distributed systems and algorithms; parallel and distributed programming; parallel numerical algorithms; multicore and manycore programming; theory and algorithms for parallel computation; high performance network and communication; mobile and ubiquitous computing; high performance and scientific applications; GPU and accelerators computing.

Languages and Compilers for Parallel Computing -

Chen Ding 2017-01-20

This book constitutes the thoroughly refereed post-conference proceedings of the 29th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2016, held in Rochester, NY, USA, in September 2016. The 20 revised full papers presented together with 4 short papers were carefully reviewed. The papers are organized in topical sections on large scale parallelism, resilience and persistence, compiler analysis and optimization, dynamic

computation and languages, GPUs and private memory, and run-time and performance analysis.

Hardware and Software, Verification and Testing -
Shmuel Ur 2006-03-03

This book constitutes the refereed post-proceedings of the First International Conference on Hardware Verification, Software Testing, and PADTAD held in November 2005. The conference combines the sixth IBM Verification Workshop, the fourth IBM Software Testing Workshop, and the third PADTAD (Parallel and Distributed Systems: Testing and Debugging) Workshop. The 14 revised full papers presented together with three invited contributions were carefully reviewed and selected from 31 submissions. The papers address all current issues in hardware/software verification, software testing, and testing of parallel and concurrent applications.

Languages and Compilers for Parallel Computing -

Larry Carter 2003-06-29

In August 1999, the Twelfth

Workshop on Languages and Compilers for Parallel Computing (LCPC) was hosted by the Hierarchical Tiling Research group from the Computer Science and Engineering Department at the University of California San Diego (UCSD). The workshop is an annual international forum for leading research groups to present their current research activities and the latest results. It has also been a place for researchers and practitioners to interact closely and exchange ideas about future directions. Among the topics of interest to the workshop are language features, code generation, debugging, optimization, communication and distributed shared memory libraries, distributed object systems, resource management systems, integration of compiler and runtime systems, irregular and dynamic applications, and performance evaluation. In 1999, the workshop was held at the International Relations/Pacific Studies Auditorium and the San Diego Supercomputer Center at

UCSD. Seventy-seven researchers from Australia, England, France, Germany, Korea, Spain, and the United States attended the workshop, an increase of over 50% from 1998.

[Languages and Compilers for Parallel Computing - 2003](#)

Parallel Language and Compiler Research in Japan

- Lubomir Bic 2012-12-06

Parallel Language and Compiler Research in Japan offers the international community an opportunity to learn in-depth about key Japanese research efforts in the particular software domains of parallel programming and parallelizing compilers. These are important topics that strongly bear on the effectiveness and affordability of high performance computing systems. The chapters of this book convey a comprehensive and current depiction of leading edge research efforts in Japan that focus on parallel software design, development, and optimization that could be obtained only through direct

and personal interaction with the researchers themselves.
Languages and Compilers for Parallel Computing - Gheorghe Almási 2007-06-11

This book constitutes the thoroughly refereed post-proceedings of the 19th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2006, held in New Orleans, LA, USA in November 2006. The 24 revised full papers presented together with two keynote talks cover programming models, code generation, parallelism, compilation techniques, data structures, register allocation, and memory management.
Languages and Compilers for Parallel Computing - 2007

Languages and Compilers for Parallel Computing -

Mary Hall 2019-11-12
This book constitutes the thoroughly refereed post-conference proceedings of the 31st International Workshop on Languages and Compilers for Parallel Computing, LCPC 2018, held in Salt Lake City, UT, USA, in October 2018. The

14 revised full papers were carefully reviewed and selected from 26 submissions. Specific topics are compiling for parallelism and parallel compilers, static, dynamic, and adaptive optimization of parallel programs, parallel programming models and languages, formal analysis and verification of parallel programs, parallel runtime systems and libraries, performance analysis and debugging tools for concurrency and parallelism, parallel algorithms and concurrent data structures, parallel applications, synchronization and concurrency control, software engineering for parallel programs, fault tolerance for parallel systems, and parallel programming and compiling for heterogeneous systems.

Algorithms and Architectures for Parallel Processing - Sheng Wen

2020-01-21
The two-volume set LNCS 11944-11945 constitutes the proceedings of the 19th International Conference on

Algorithms and Architectures for Parallel Processing, ICA3PP 2019, held in Melbourne, Australia, in December 2019. The 73 full and 29 short papers presented were carefully reviewed and selected from 251 submissions. The papers are organized in topical sections on: Parallel and Distributed Architectures, Software Systems and Programming Models, Distributed and Parallel and Network-based Computing, Big Data and its Applications, Distributed and Parallel Algorithms, Applications of Distributed and Parallel Computing, Service Dependability and Security, IoT and CPS Computing, Performance Modelling and Evaluation.

Languages and Compilers for Parallel Computing -

Eduard Ayguadé 2007-05-16

This book constitutes the thoroughly refereed post-proceedings of the 18th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2005, held in Hawthorne, NY,

USA in October 2005. The 26 revised full papers and eight short papers presented were carefully selected during two rounds of reviewing and improvement. The papers are organized in topical sections. Languages and Compilers for Parallel Computing - Hironori Kasahara 2013-04-05

This book constitutes the thoroughly refereed post-conference proceedings of the 25th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2012, held in Tokyo, Japan, in September 2012. The 16 revised full papers, 5 poster papers presented with 1 invited talk were carefully reviewed and selected from 39 submissions. The focus of the papers is on following topics: compiling for parallelism, automatic parallelization, optimization of parallel programs, formal analysis and verification of parallel programs, parallel runtime systems, task-parallel libraries, parallel application frameworks, performance analysis tools, debugging tools

for parallel programs, parallel algorithms and applications.

Static Analysis - Hanne Riis Nielson 2007-08-22

This volume presents the refereed proceedings from the 14th International Symposium on Static Analysis. The papers address all aspects of static analysis, including abstract domains, abstract interpretation, abstract testing, compiler optimizations, control flow analysis, data flow analysis, model checking, program specialization, security analysis, theoretical analysis frameworks, type-based analysis, and verification systems.

Languages and Compilers for Parallel Computing - Keith Cooper 2011-02-24

This book constitutes the thoroughly refereed post-proceedings of the 23rd International Workshop on Languages and Compilers for Parallel Computing, LCPC 2010, held in Houston, TX, USA, in October 2010. The 18 revised full papers presented were carefully reviewed and selected from 47 submissions.

The scope of the workshop spans foundational results and practical experience, and targets all classes of parallel platforms including concurrent, multithreaded, multicore, accelerated, multiprocessor, and cluster systems
Applications, Tools and Techniques on the Road to Exascale Computing - Koen de Bosschere 2012

Single processing units have now reached a point where further major improvements in their performance are restricted by their physical limitations. This is causing a slowing down in advances at the same time as new scientific challenges are demanding exascale speed. This has meant that parallel processing has become key to High Performance Computing (HPC). This book contains the proceedings of the 14th biennial ParCo conference, ParCo2011, held in Ghent, Belgium. The ParCo conferences have traditionally concentrated on three main themes: Algorithms, Architectures and Applications.

Nowadays though, the focus has shifted from traditional multiprocessor topologies to heterogeneous and manycores, incorporating standard CPUs, GPUs (Graphics Processing Units) and FPGAs (Field Programmable Gate Arrays). These platforms are, at a higher abstraction level, integrated in clusters, grids and clouds. The papers presented here reflect this change of focus. New architectures, programming tools and techniques are also explored, and the need for exascale hardware and software was also discussed in the industrial session of the conference. This book will be of interest to all those interested in parallel computing today, and progress towards the exascale computing of tomorrow.

Handbook of Grammatical Evolution - Conor Ryan
2018-09-11

This handbook offers a comprehensive treatise on Grammatical Evolution (GE), a grammar-based Evolutionary Algorithm that employs a

function to map binary strings into higher-level structures such as programs. GE's simplicity and modular nature make it a very flexible tool. Since its introduction almost twenty years ago, researchers have applied it to a vast range of problem domains, including financial modelling, parallel programming and genetics. Similarly, much work has been conducted to exploit and understand the nature of its mapping scheme, triggering additional research on everything from different grammars to alternative mappers to initialization. The book first introduces GE to the novice, providing a thorough description of GE along with historical key advances. Two sections follow, each composed of chapters from international leading researchers in the field. The first section concentrates on analysis of GE and its operation, giving valuable insight into set up and deployment. The second section consists of seven chapters describing radically different applications of GE.

The contributions in this volume are beneficial to both novices and experts alike, as they detail the results and researcher experiences of applying GE to large scale and difficult problems. Topics include:

- Grammar design
- Bias in GE
- Mapping in GE
- Theory of disruption in GE
- Structured GE
- Geometric semantic GE
- GE and semantics
- Multi- and Many-core heterogeneous parallel GE
- Comparing methods to creating constants in GE
- Financial modelling with GE
- Synthesis of parallel programs on multi-cores
- Design, architecture and engineering with GE
- Computational creativity and GE
- GE in the prediction of glucose for diabetes
- GE approaches to bioinformatics and system genomics
- GE with coevolutionary algorithms in cybersecurity
- Evolving behaviour trees with GE for platform games
- Business analytics and GE for the prediction of patient recruitment in multicentre clinical trials

Languages and Compilers for Parallel Computing -

Seventh International Workshop on Languages and Comp 1995-01-26

This volume presents revised versions of the 32 papers accepted for the Seventh Annual Workshop on Languages and Compilers for Parallel Computing, held in Ithaca, NY in August 1994. The 32 papers presented report on the leading research activities in languages and compilers for parallel computing and thus reflect the state of the art in the field. The volume is organized in sections on fine-grain parallelism, alignment and distribution, postlinear loop transformation, parallel structures, program analysis, computer communication, automatic parallelization, languages for parallelism, scheduling and program optimization, and program evaluation.

Languages and Compilers for Parallel Computing - Vikram Adve 2008-08-17

This book constitutes the thoroughly refereed post-

conference proceedings of the 20th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2007, held in Urbana, IL, USA, in October 2007. The 23 revised full papers presented were carefully reviewed and selected from 49 submissions. The papers are organized in topical sections on reliability, languages, parallel compiler technology, libraries, run-time systems and performance analysis, and general compiler techniques.

Languages and Compilers for Parallel Computing - Xipeng Shen 2016-02-19

This book constitutes the thoroughly refereed post-conference proceedings of the 28th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2015, held in Raleigh, NC, USA, in September 2015. The 19 revised full papers were carefully reviewed and selected from 44 submissions. The papers are organized in topical sections on programming models, optimizing framework, parallelizing compiler,

communication and locality, parallel applications and data structures, and correctness and reliability.

PARLE '92, Parallel Architectures and Languages Europe - Daniel Etiemble 1992-06-03

The 1992 Parallel Architectures and Languages Europe conference continues the tradition - of a wide and representative international meeting of specialists from academia and industry in theory, design, and application of parallel computer systems - set by the previous PARLE conferences held in Eindhoven in 1987, 1989, and 1991. This volume contains the 52 regular and 25 poster papers that were selected from 187 submitted papers for presentation and publication. In addition, five invited lectures are included. The regular papers are organized into sections on: implementation of parallel programs, graph theory, architecture, optimal algorithms, graph theory and performance, parallel software components, data base

optimization and modeling, data parallelism, formal methods, systolic approach, functional programming, fine grain parallelism, Prolog, data flow systems, network efficiency, parallel algorithms, cache systems, implementation of parallel languages, parallel scheduling in data base systems, semantic models, parallel data base machines, and language semantics.

Languages and Compilers for Parallel Computing - Zhiyuan Li 1998-04-29

This book constitutes the refereed proceedings of the 12th Biennial Conference of the Canadian Society for Computational Studies of Intelligence, AI'98, held in Vancouver, BC, Canada in June 1998. The 28 revised full papers presented together with 10 extended abstracts were carefully reviewed and selected from a total of more than twice as many submissions. The book is divided in topical sections on planning, constraints, search and databases; applications; genetic algorithms; learning and natural language;

reasoning; uncertainty; and learning.

Languages and Compilers for Parallel Computing -

Sanjay Rajopadhye 2013-01-18

This book constitutes the thoroughly refereed post-conference proceedings of the 24th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2011, held in Fort Collins, CO, USA, in September 2011. The 19 revised full papers presented and 19 poster papers were carefully reviewed and selected from 52 submissions. The scope of the workshop spans the theoretical and practical aspects of parallel and high-performance computing, and targets parallel platforms including concurrent, multithreaded, multicore, accelerator, multiprocessor, and cluster systems.

Proceedings of the ACM Twentieth Annual Southeast Regional Conference - Association for Computing Machinery. Southeast Regional Conference 1982

Compiler Construction -

Stefan Jähnichen 2004-01-27
ETAPS'99 is the second instance of the European Joint Conferences on Theory and Practice of Software. ETAPS is an annual federated conference that was established in 1998 by combining a number of existing and new conferences. This year it comprises five conferences (FOSSACS, FASE, ESOP, CC, TACAS), four satellite workshops (CMCS, AS, WAGA, CoFI), seven invited lectures, two invited tutorials, and six contributed tutorials. The events that comprise ETAPS address various aspects of the system development process, including specification, design, implementation, analysis and improvement. The languages, methodologies and tools which support these activities are all well within its scope. Different blends of theory and practice are represented, with an inclination towards theory with a practical motivation on one hand and soundly-based practice on the other. Many of the issues involved in software design apply to systems in general, including hardware

systems, and the emphasis on software is not intended to be exclusive.

Parallel Programming Using C++ - Gregory V. Wilson
1996-07-08

Foreword by Bjarne Stroustrup
Software is generally acknowledged to be the single greatest obstacle preventing mainstream adoption of massively-parallel computing. While sequential applications are routinely ported to platforms ranging from PCs to mainframes, most parallel programs only ever run on one type of machine. One reason for this is that most parallel programming systems have failed to insulate their users from the architectures of the machines on which they have run. Those that have been platform-independent have usually also had poor performance. Many researchers now believe that object-oriented languages may offer a solution. By hiding the architecture-specific constructs required for high performance inside platform-independent abstractions, parallel object-

oriented programming systems may be able to combine the speed of massively-parallel computing with the comfort of sequential programming. *Parallel Programming Using C++* describes fifteen parallel programming systems based on C++, the most popular object-oriented language of today. These systems cover the whole spectrum of parallel programming paradigms, from data parallelism through dataflow and distributed shared memory to message-passing control parallelism. For the parallel programming community, a common parallel application is discussed in each chapter, as part of the description of the system itself. By comparing the implementations of the polygon overlay problem in each system, the reader can get a better sense of their expressiveness and functionality for a common problem. For the systems community, the chapters contain a discussion of the implementation of the various compilers and runtime

systems. In addition to discussing the performance of polygon overlay, several of the contributors also discuss the performance of other, more substantial, applications. For the research community, the contributors discuss the motivations for and philosophy of their systems. As well, many of the chapters include critiques that complete the research arc by pointing out possible future research directions. Finally, for the object-oriented community, there are many examples of how encapsulation, inheritance, and polymorphism can be used to control the complexity of developing, debugging, and tuning parallel software.

[Languages and Compilers for Parallel Computing](#) - Gheorghe Almási 2007-05-25

This book constitutes the thoroughly refereed post-proceedings of the 19th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2006, held in New Orleans, LA, USA in November 2006. The 24

revised full papers presented together with two keynote talks cover programming models, code generation, parallelism, compilation techniques, data structures, register allocation, and memory management.

A Practical Programming Model for the Multi-Core Era - Barbara Chapman

2008-06-11

This book constitutes the thoroughly refereed post-workshop proceedings of the Third International Workshop on OpenMP, IWOMP 2007, held in Beijing, China, in June 2007. The 14 revised full papers and 8 revised short papers presented were carefully reviewed and selected from 28 submissions. The papers address all topics related to OpenMP, such as OpenMP performance analysis and modeling, OpenMP performance and correctness tools and proposed OpenMP extensions, as well as applications in various domains, e.g., scientific computation, video games, computer graphics, multimedia, information

retrieval, optimization, text processing, data mining, finance, signal and image processing, and numerical solvers.

Languages, Compilers and Run-Time Systems for Scalable Computers -

Boleslaw K. Szymanski
2012-12-06

Language, Compilers and Run-time Systems for Scalable Computers contains 20 articles based on presentations given at the third workshop of the same title, and 13 extended abstracts from the poster session. Starting with new developments in classical problems of parallel compiler design, such as dependence analysis and an exploration of loop parallelism, the book goes on to address the issues of compiler strategy for specific architectures and programming environments. Several chapters investigate support for multi-threading, object orientation, irregular computation, locality enhancement, and communication optimization. Issues of the interface between

language and operating system support are also discussed. Finally, the load balance issues are discussed in different contexts, including sparse matrix computation and iteratively balanced adaptive solvers for partial differential equations. Some additional

topics are also discussed in the extended abstracts. Each chapter provides a bibliography of relevant papers and the book can thus be used as a reference to the most up-to-date research in parallel software engineering.